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No. _____

IN THE
SUPREME COURT OF THE UNITED STATES

HYDRECLAIM CORPORATION,

Petitioner,

v.

PROCESS CONTROL CORPORATION,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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PETITION FOR WRIT OF CERTIORARI

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QUESTIONS PRESENTED

This case squarely presents three related questions arising directly from this Court's decision in *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996):

1. Whether in discharging the functions assigned to the lower courts in *Markman*, a court may invalidate a patent duly issued by the Patent and Trademark Office based on the rationale that the claim language in the patent, taken alone, is "nonsensical," without reference to the explanatory language in the patent's specification in which the meaning of the patent is made clear;

2. Whether *Markman* requires a court to conclude that a patent's claims are facially ambiguous before referring to the written description in the patent's specification as an interpretive aid in understanding the patent's claims; and

3. Whether a patentee is denied due process when a court of appeals invalidates a patent on the grounds that the patent does not describe an operative invention (and thus lacks utility and is non-enabling), when no party argued or briefed those issues and when both the patentee and the alleged infringer disclaimed those grounds in the District Court.

PARTIES TO PROCEEDING

The following is a list of the names of all parties to this action:

HydReclaim Corporation, n/k/a HideReclaim, Inc.

Process Control Corporation

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PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

HydReclaim Corporation respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit in this case.

OPINIONS BELOW

The opinion of the United States Court of Appeals for the Federal Circuit denying Petitioner's Petition for Reconsideration (Appendix filed concurrently herewith ("App.") at A65) is not reported. The opinion of the Federal Circuit reversing in part and vacating in part the District Court's Order (App. at A2) is reported at 190 F.3d 1350 (Fed. Cir. 1999). The opinion of the United States District Court for the Northern District of Georgia (App. at A19) is not reported. The amended judgment of the United States District Court for the Northern District of Georgia (App. at A67) is not reported.

JURISDICTION

The opinion of the Federal Circuit reversing in part and vacating in part the District Court's opinion was entered on

September 7, 1999. (App. at A2). The opinion of the Federal Circuit denying Petitioner's Petition for Reconsideration was entered on October 25, 1999. (App. at A65). The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

Article 1, section 8, clause 8 of the United States Constitution provides, in relevant part:

> The Congress shall have power . . .
>
> (8) To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries. . . .

Section 101 of the Patent Act, which is entitled "Inventions patentable," provides:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. § 101.

Section 112 of the Patent Act, which is entitled "Specification," provides, in relevant part:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.
>
> The specification shall conclude with one or more claims particularly pointing out and distinctly

> claiming the subject matter which the applicant regards as his invention.
>
> A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.

35 U.S.C. § 112.

The Fifth Amendment to the United States Constitution provides, in relevant part:

> . . . nor be deprived of life, liberty, or property without due process of law . . . .

STATEMENT OF THE CASE

This case presents the issue as to what portions of a patent the Federal Circuit may or must consider in discharging its responsibility to interpret patent claims as a matter of law under *Markman*. The Court of Appeals has invalidated the patent in this case based solely on its conclusion that the claims as allowed by the Patent and Trademark Office describe a nonsensical device. The Court of Appeals concluded that it should ignore any explanatory language found in the issued patent's specifications in its effort to interpret the claims because the claims are not ambiguous – but as interpreted by the Court of Appeals are physically impossible.

The Court of Appeals therefore reversed the District Court's legal interpretation which relied upon the explanation found in the specifications. The ruling of the Court of Appeals therefore converts the specifications which form a portion of every issued patent into mere "surplusage" – not to be considered unless the claims read in isolation create some intrinsic ambiguity.[1]

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[1] Specifically, the Federal Circuit found that claim 1 of U.S. Patent 5,143,943 (the "'943 Patent") determines the formula for determination of the rate at which plastic pellets are fed to an extruder cannot be read as suggested in the specifications. The '943 Patent in its entirety seeks to teach that the rate of feed is determined by adding together the rates at

This case represents a fundamental misstep in maintaining the balance this Court sought to preserve for the role of judges in interpreting patent claims through the *Markman* decision. The Federal Circuit has now changed the way patents are construed in a way that is illogical, that threatens to unsettle the long established manner by which patents are read and understood, and that undermines the role and presumption of validity arising from the issuance of a patent by the Patent and Trademark Office.

In this case, the District Court found that HydReclaim's President made a patentable invention; that he duly secured a patent from the Patent and Trademark Office; and that his competitor understood the invention, intentionally stole the idea, and willfully infringed the patent.[2] On appeal, the Federal Circuit simply invalidated the patent on its face, holding that the patent's claims are "nonsense," even though they are clearly explained in the patent's specification.

The patent in this case deals with methods and devices by which plastic pellets may be uniformly fed into an extruding machine over time so that the resulting plastic product is even and uniform. Thus, HydReclaim's '943 Patent describes a device and a process for blending ingredients to form plastic.[3] Bill Moller, the owner of HydReclaim until Process Control's infringement forced him to sell the company's assets, invented the idea for the '943 Patent on August 31, 1990. (App at A44-A46). Mr. Moller

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which materials enter a machine and the rate at which material is accumulating inside the machine. The '943 Patent claims, taken alone, are admittedly unclear. The Court of Appeals concluded, however, that the allowed claims should be read in isolation to violate the law of conservation of mass.

[2] The facts cited herein reflect the findings in the District Court's Order, which were not set aside by the Federal Circuit, and the citations reflect the portions of the District Court's Order that make the relevant findings.

[3] A copy of the '943 Patent has been filed in this Court as a separate document entitled "Patent Document."

incorporated his invention into HydReclaim's 470 blender. (App. at A45-A46). Mr. Moller timely filed a patent application for his invention.

HydReclaim first displayed the 470 blender at a Plastics Fair in Atlanta, Georgia in November 1990. (App. at A50). Joseph Robertson, the chairman of Process Control, saw HydReclaim's 470 blender at the Plastics Fair, discussed the 470 blender with Mr. Moller at the fair, and inspected the 470 blender "to see what was going on." (App. at A30). Soon after Mr. Robertson inspected HydReclaim's 470 blender, Process Control employed HydReclaim's invention in a Process Control blender known as the BG blender. (App. at A30-A39).

The Patent Office issued the '943 Patent in a first action on September 22, 1992. (App. at A23). The specification of the '943 Patent – which is the part of the patent that must "describ[e] the invention 'in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same" – describes a continuous gravimetric blender with a weighed common hopper. *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996) (quoting 35 U.S.C. § 112). (*See* App. at A4 for a diagram of the device). In essence, HydReclaim's invention is a novel manner of mixing ingredients by weight and using that weight input information and other information to maintain a constant weight of mixed ingredients in a storage bin that feeds a processing machine.

The specification of the '943 Patent concludes with the patent's claims, which are the parts of the patent that "particularly poin[t] out and distinctly clai[m] the subject matter which the applicant regards as his invention." *Markman*, 517 U.S. at 373. The '943 Patent has 14 claims, including two independent method claims (1 and 4) and two independent apparatus claims (7 and 14).

I. THE DISTRICT COURT

On September 30, 1997, the District Court issued a final order (the "Order") concluding that the '943 Patent was not invalid and that Process Control's BG blenders infringe HydReclaim's '943 Patent. (App. at A64). The District Court also found that Process Control's infringement was willful, and awarded HydReclaim a 15% reasonable royalty on all infringing sales, as well as its attorneys' fees and costs. (App. at A59-A60, A64). Accordingly, the District Court awarded HydReclaim compensatory damages in the amount of $1,894,447.95; attorneys' fees in the amount of $1,062,098.62; and costs in the amount of $54,862.34. (*See* Amended Judgment of the District Court, dated August 11, 1998) (App. at A67).

The District Court found that Process Control understood the '943 Patent claims when the patent issued in September 1992, and was fully aware that its new BG blender infringed the '943 Patent. (App. at A60-A64). Moreover, Process Control waited well over two years after the issuance of the '943 Patent to obtain a meaningful legal opinion regarding whether the patent is valid and whether Process Control's BG blender infringes the patent. (App. at A63). A final and signed opinion of counsel on these issues was not received until December 1994, some 28 months after the patent had issued. (App. at A63). Throughout this period, Process Control was manufacturing and selling its BG blender, thereby causing HydReclaim injury in the marketplace. (App. at A62-A63).

The District Court addressed the ambiguity in the patent, upon which the Federal Circuit ultimately deemed the patent "nonsensical." That ambiguity involves the meaning of the phrase "discharge rate" in the claims of the patent. The District Court noted that the term "discharge rate" is ambiguous, but ruled that the term could be understood because "[t]he specification of the '943 Patent explains the definition of 'discharge rate' and forecloses the construction asserted by Process Control." (App. at A33-A34).

Neither Process Control nor HydReclaim ever argued, in the District Court or in the Federal Circuit, that the term "discharge rate" was used in the manner adopted by the Federal Circuit – to indicate that the invention operated so as to violate the law of conservation of mass, rendering the patent inoperable and nonsensical. Indeed, Process Control was questioned by the District Court on this very issue and Process Control rejected the notion that the claims of the '943 Patent were nonsensical. Thus, during the oral argument on Process Control's motion for judgment as a matter of law on the construction of the '943 Patent, Process Control assured the District Court that the construction of the patent claims urged by Process Control would not render the claims non-sensical:

> The Court: What would it mean if you read it that way?
>
> Mr. Deveau: Read the discharge rate that way?
>
> The Court: Uh-huh.
>
> Mr. Deveau: It would mean we believe under the ordinary meaning of the term, the [rate] at which material is discharged from the common hopper to the processing machine or the extruder as we've been specifically referring to it.
>
> The Court: I'm saying put that in context. What would that make that portion of the claim mean? **Or would it be nonsensical?**
>
> Mr. Deveau: Well, under the ordinary meaning of the term, it would refer to the rate, if I might refer to Figure 2 of the patent. It would refer to the rate at which material passes out of the common hopper 30, through what is referred to as the extruder --
>
> The Court: I understand that, Mr. Deveau. **What I am asking is, if I agreed with you, and I read it that way, what would that mean? Put it in context. Tell me what it means.**

> Mr. Deveau: It would mean that to determine the processing rate, this calculation requires that you must include into that calculation the rate which the material passes out of the common hopper to the extruder. That's what they've written and that's what it says, and that's what the patent office relied upon. The patent office only had this wording in front of them.
>
> **The Court: I understand. Now, let me see if I understand what you just told me there, and that makes -- in your opinion, that makes sense. It describes something?**
>
> **Mr. Deveau: It describes something.**

See Trial Transcript dated May 30, 1997 at 98-99 (emphasis added). In this manner, the parties and the District Court sought to divine an interpretation of this patent that would give the patent meaning.

II. THE FEDERAL CIRCUIT

After the District Court issued its opinion, Process Control appealed the District Court's Order to the United States Court of Appeals for the Federal Circuit. The Federal Circuit reversed the District Court's finding that the '943 Patent is not invalid. 190 F.3d at 1359 (App. at A18). The Federal Circuit made a *de novo* determination that the claims of the patent are "nonsensical." 190 F.3d at 1357. (App. at A12-A13).

The Federal Circuit acknowledged that a patent's specification may define the terms that are used in the patent's claims. 190 F.3d at 1356 (App. at A11). However, the Federal Circuit concluded, based on absolutely no supporting evidence, that the specification of the '943 Patent did not "so clearly redefine 'the discharge rate' in clause [d] so as to put a reasonable competitor or one reasonably skilled in the art on notice that the patentee

intended to so redefine that claim term." 190 F.3d at 1357 (App. at A12).

The Federal Circuit concluded that the Patent and Trademark Office issued a patent that purported to defy the laws of physics, and the Federal Circuit then invalidated the patent rather than consulting the specification to determine whether the patent makes sense. 190 F.3d at 1359 (App. at A17-A18). Specifically, the Federal Circuit ruled that method Claims 1 and 4 are facially invalid because the construction adopted by the District Court after considering the patent specification requires the phrase "discharge rate" to mean two different things in the same claim. As the Federal Circuit reads the claims (without reference to the description in the specification) the patent's equation seeks to maintain constant weight – in effect, it "solves" for one of its own input elements. Thus the Federal Circuit concluded that the patent describes an inoperable device:

> It is clear from the language of the claim itself that the term "a discharge rate" in clause [b] is referring to the same rate as the term "the discharge rate" in clause [d]. This conclusion necessarily results from the identical language associated with the term "discharge rate" in both clauses [b] and [d].

190 F.3d at 1356 (App. at A11). The Federal Circuit reasoned that its interpretation of the phrase "discharge rate" placed HydReclaim's invention in violation of the laws of physics:

> Consequently, clause [d] of claim 1 . . . embodies an inoperable method that violates the principle of conservation of mass. In other words, clause [d] requires determining a quantity from the sum of that exact same quantity and something else, or symbolically, A = A+ B, which is impossible, where, as here, B is not equal to zero.

190 F.3d at 1359 (App. at A17-A18).

The Federal Circuit then concluded that the '943 Patent is invalid as interpreted because, on its face, it fails to meet the requirements of utility (35 U.S.C. § 101) and enablement (35 U.S.C. § 112), ruling that "when an impossible limitation, such as a nonsensical method of operation, is clearly embodied within the claim, the claimed invention must be held invalid." 190 F.3d at 1358-59 (App. at A16). This is a particularly surprising result in that neither of the parties argued, and neither the District Court nor the Patent Office concluded, that this was the problem with the patent.

HydReclaim filed a Petition for Rehearing, which the Federal Circuit denied on October 25, 1999. (App. at A65).

SUMMARY OF REASONS FOR GRANTING THE PETITION

The Federal Circuit has taken this Court's decision in *Markman* as a directive to approach patent claims in isolation of the description contained in the patent's specification, and to do so with a hyper-technical eye that disregards the strong presumption of validity and the previously irrebutable presumption of *facial* validity. The Federal Circuit has therefore unsettled decades of patent jurisprudence established by this Court:

- The meaning of a patent's claims is no longer determined with at least some consideration of the explanation found in the specification that precedes the patent claims; instead, the specification is demoted to "secondary evidence" or "extrinsic evidence" of meaning;
- Patents are no longer entitled to a presumption of validity arising out of at least some deference due the expertise and process of the Patent and Trademark Office, which has accepted the specification as explanatory of the patent; and

- The descriptions in patent specifications are now rendered merely surplusage, particularly in those uncertain or difficult cases when heretofore the rule has been that an effort should be made to preserve the presumptive validity of issued patents.

The questions raised by the Federal Circuit's opinion in this case must be addressed because the Federal Circuit has changed the way that patents are interpreted, and, more important, the Federal Circuit has significantly weakened the constitutional grant of protection that a duly issued patent provides to an inventor who reveals his invention to the public. The outcome of the Federal Circuit's opinion, and those that will accumulate in its wake, will fundamentally unsettle the process by which the rights of inventors are protected. Accordingly, the public interest will be well served by the Court granting certiorari to resolve the questions the Federal Circuit has raised.

Moreover, the Federal Circuit's approach represents a fundamental encroachment on the due process rights that should protect the methods by which a court can invalidate a patent, thereby stripping an inventor of the constitutional grant of protection that attaches to a duly-issued patent. The Federal Circuit took the directive of *Markman*, and, without giving either party in this case a chance to brief the issue or to present factual evidence, invalidated a duly-issued patent on its face based on a rationale that the alleged infringer *rejected* in the District Court.

REASONS FOR GRANTING THE PETITION

I. IT IS IMPORTANT TO CLARIFY THAT, WHEN THE DESCRIPTION IN A PATENT'S SPECIFICATION CLARIFIES THE MEANING OF THE PATENT'S CLAIMS, COURTS SHOULD NOT INVALIDATE CONSTITUTIONALLY GRANTED PATENT RIGHTS ON THE GROUNDS THAT THE PATENT'S CLAIMS CAN HAVE NO VALID MEANING

This Court examined the origin of the "claim" portion of a patent, as described by statute in 35 U.S.C. § 112, in its *Markman* decision. In *Markman*, this Court addressed whether the construction of a patent's claims should be done by the judge or the jury, and focused on the interpretation of the claims themselves apart from the question of interpreting any other part of the patent. In that context, this Court noted that: "At the time relevant for Seventh Amendment analogies, in contrast, it was the specification, itself a relatively new development . . . that represented the key to the patent." 517 U.S. at 379. The Court ultimately concluded that "judges, not juries, are the better suited to find the acquired meaning of patent terms." 517 U.S. at 388.

The Federal Circuit has now elevated judicial interpretation of patent claims to a point not anticipated by *Markman* – the Federal Circuit has now interpreted the claims of a patent in complete isolation from the description of the invention contained in the specification of the patent. This result effectively eliminates the deference once afforded to the Patent and Trademark Office, as the Federal Circuit has now confirmed that it will invalidate duly-issued patents after doing nothing more than reading the language that appears in the four corners of the claims themselves, without any other evidence and without a suggestion by either party that the claims are inoperable.

A. Courts Must Interpret Patent Claims To Preserve The Patentee's Invention

It is long-settled that patents must be interpreted to preserve their validity where possible. *See, e.g., Carman Indus., Inc. v. Wahl*, 724 F.2d 932, 937 n.5 (Fed. Cir. 1983) ("Claims should be so construed, if possible, as to sustain their validity.").[4] Moreover, this Court established long ago that the claims of a patent must be interpreted in order to secure the actual invention of the patentee. *Smith v. Snow*, 294 U.S. 1, 14 (1935) ("if the claim were fairly susceptible of two constructions, that should be adopted which will secure to the patentee his actual invention, rather than to adopt a construction fatal to the grant").

1. *Courts Must Analyze The Description In The Specification When Interpreting The Claims*

The principle that patents must be interpreted to secure the actual invention establishes a significant corollary rule: in order to interpret a claim to "secure the actual invention," the interpreter must know what the actual invention is. The interpreter learns what the actual invention is by reading the entire patent, including the description in the specification.

Based on the traditional canons of claim construction, a judge must analyze the description of the invention in the specification to understand the patented idea, and the judge should then interpret the claims in light of that understanding. This principle was well established prior to

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[4] The expertise of the Patent and Trademark Office's patent examiners is the basis of the presumption of validity given to patents issued by the Patent and Trademark Office. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1139 (Fed. Cir. 1985) ("Following examination by the Patent and Trademark Office, a duly issued patent is presumed valid, as is a duly reissued patent. . . . This statutory presumption derives in part from recognition of the technological expertise of the patent examiners."); *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359-60 (Fed. Cir. 1984) ("Behind it all, of course, was the basic proposition that a government agency such as the then Patent Office was presumed to do its job.").

this Court's *Markman* decision. *See ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984) ("Claims are to be read and construed in light of the specification and the prosecution history of the patent. Further, claims should be so construed, if possible, as to sustain their validity."). Thus, the description of the invention in the specification is an inseparable part of the patent, and the claims must always be interpreted in light of that description to secure the inventor's invention.

The specification also describes a "preferred embodiment" of the invention. 35 U.S.C. § 112. In other words, the specification describes the inventor's idea and then gives substance to the idea in a way that would allow someone skilled in the relevant art to implement the idea. *See, e.g., Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 960 (Fed. Cir. 1983) ("We conclude as a matter of law that the specification of the '520 patent contains a clear description enabling one skilled in the art to make and use the inventions set forth in claims 2-7.")

After understanding the description of the invention and the preferred embodiment, the claims of a patent can then be examined to determine the precise scope of legal protection afforded to the inventor. *See* 35 U.S.C. § 112. The claims traditionally could not be interpreted in such a way that would actually exclude the preferred embodiment disclosed in the specification:

> Therefore, in order to be consistent with the specification and preferred embodiment described therein, claim 1 must be construed such that the term "solder reflow temperature" means the peak reflow temperature, rather than the liquidus temperature. Indeed, if "solder reflow temperature" were defined to mean liquidus temperature, a preferred (and indeed only) embodiment in the specification would not

> fall within the scope of the patent claim. Such an interpretation is rarely, if ever, correct and would require highly persuasive evidentiary support, which is wholly absent in this case.

Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed. Cir. 1996). In sum, if an interpretation of the claim results in a meaning that is fundamentally different than the description in the specification, it is rarely, if ever, the correct interpretation. *See also Modine Mfg. Co. v. U.S. Int'l Trade Comm'n*, 75 F.3d 1545, 1550 (Fed. Cir. 1996) ("a claim interpretation that would exclude the inventor's device is rarely the correct interpretation; such an interpretation requires highly persuasive evidentiary support"); *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1581 (Fed. Cir. 1996) ("We share the district court's view that it is unlikely that an inventor would define the invention in a way that excluded the preferred embodiment, or that persons of skill in this field would read the specification in such a way.").

To prevail on an assertion of invalidity based on such an interpretation, the alleged infringer must supply "highly persuasive evidentiary support." *Vitronics*, 90 F.3d at 1583. Thus, the alleged infringer must point to something *outside* the four corners of the patent, such as expert testimony, prior art, or evidence of fraud on the Patent and Trademark Office. In the cases relied on by the Federal Circuit in its opinion, patents were held invalid for "inoperability" only after examining the actual invention (*i.e.*, the physical evidence) or reviewing expert testimony. 190 F.3d at 1358-59 (citing *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956 (Fed. Cir. 1983) and *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1571 (Fed. Cir. 1992)) (App. at A15-A16). In other words, based on the evidence, there was no way that the patent could enable the invention in those cases, or the invention could not be both patentable and operable in light of extrinsic evidence and prior art. In this case, there was *no*

such evidence in the record – not only did Process Control fail to point to such evidence, it argued the opposite to the District Court. Nevertheless, after examining no evidence at all, the Federal Circuit concluded that one reasonably skilled in the art of blending could only reach the conclusion that the patent claims mean something different than what is described in the specification, and that they violate the law of conservation of mass.

2. *"Ambiguity" Need Not Be Shown In The Language Of The Claims Before Referring To The Description In The Specification*

Although the claims of a patent determine the precise scope of the invention, *Markman*, 517 U.S. at 343, that scope should be defined in relation to the general teaching of the specification, as this Court explained:

> [A]ny credibility determinations will be subsumed within the necessarily sophisticated analysis of the whole document, required by the standard construction rule that a term can be defined only in a way that comports with the instrument as a whole . . . The decisionmaker vested with the task of construing the patent is in the better position to ascertain whether an expert's proposed definition fully comports with the specification and claims and so will preserve the patent's internal coherence.

Markman, 517 U.S. at 389-390. A patentee thus becomes a "lexicographer" through this process, as the specification can "define" terms *by implication* based on the description of the specification and the various rules of construction explained above. *Vitronics*, 90 F.3d at 1582 ("[I]t is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning. The specification acts as a dictionary when it expressly defines terms used in the claims or when it

defines terms by implication."). The Federal Circuit unsettled the law of claim interpretation when it concluded that it could ignore the specification's explanation of what the claims mean on the grounds that the claims were subject to only one construction. The law has long held the opposite – that the description in a patent's specification may implicate the use of terms in a manner inconsistent with their ordinary meaning. *Id.*

The Federal Circuit's approach to interpreting patents in the wake of *Markman*, as reflected in this case, runs contrary to these traditional rules. The Federal Circuit has announced a rule of construction that would permit courts to ignore traditional canons of construction if the court feels that the claims, read in isolation, have a certain meaning:

> It is true, as HydReclaim urges, that we should attempt to construe the claims to preserve their validity . . . reading them in light of the specification
>
> However, contrary to HydReclaim's assertions, this is not a case where the claim language is reasonably susceptible to two constructions. Rather, the claim as written by the patentee is susceptible to only one meaning. . . .
>
> Where, as here, the claim is susceptible to only one reasonable construction, the canons of claim construction cited by HydReclaim are inapposite. . . .

190 F.3d at 1356-57 (citations omitted) (App. at A11-A13). Thus, the Federal Circuit reads the claims in isolation and then ends the inquiry at that point, making no attempt to preserve the coherence of the entire patent document.

B. The Federal Circuit's Approach Fundamentally Changes The Way Patents Are Read

1. *The Federal Circuit's Treatment Of The "Enablement" Issue Demonstrates The Flaw In Its Interpretation Of Markman*

The Federal Circuit illustrated its new approach by holding that the '943 Patent is invalid on "enablement" grounds – that the patent could not disclose a means of enabling an invention that defies the laws of physics. 190 F.3d at 1359 (App. at A16); 35 U.S.C. § 112. The fallacy with this approach is that, according to the Patent Act, the "enablement" determination must be made with reference to the description of the invention found in the specification; the claims themselves do not demonstrate whether anything can or cannot be enabled. 35 U.S.C. § 112.

There is no dispute in this case that the patent's specification contains an adequate description to enable one skilled in the art to practice the invention. Due to the Federal Circuit's isolation of the claims from the description in the specification, however, the Federal Circuit now refuses to benefit from the teaching of the specification. Thus, the Federal Circuit interpreted the claims in a vacuum and then concluded that the claims could not be enabled in any manner because they violated the laws of physics, effectively ignoring the preferred embodiment in the specification altogether.

Enablement should not focus on the claims; by statute, the inquiry must focus on the description in the specification. *See PPG Indus., Inc. v. Guardian Indus. Corp.*, 75 F.3d 1558, 1564 (Fed.Cir. 1996) ("To be enabling, the specification of a patent 'must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.'").[5] Thus, if the written

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[5] Indeed, 35 U.S.C. § 112, which discusses the enablement requirement, is entitled "Specification." That section describes the enablement requirement and then states that the specification "concludes" with the claims, requiring a reader to digest the description in the specification before examining the claims.

description in the specification teaches those skilled in the art how to practice the art disclosed in the claims, it satisfies the enablement requirement. This is the same approach taken by the Patent and Trademark Office in examining and issuing patents. *See In re Cortright*, 165 F.3d 1353, 1356 (Fed. Cir. 1999) ("A lack of enablement rejection under section 112, ¶ 1 is appropriate where the written description fails to teach those in the art to make and use the invention as broadly as it is claimed without undue experimentation.").

2. *The Federal Circuit's Decision Would Permit Competitors To Ignore The Description In A Patent's Specification*

The Federal Circuit grounded its decision in the following logic:

> As a result of our claim construction, clause [d] does not make "sense" as HydReclaim itself realizes and concedes. What HydReclaim fails to realize is that such a nonsensical result does not require the court to redraft the claims of the '943 Patent. Rather, where as here claims are susceptible to only one reasonable interpretation and that interpretation results in a nonsensical construction of the claim as a whole, the claim must be invalidated, thus preventing unduly burdening competitors who must determine the scope of the claimed invention based on the erroneously drafted claim.

190 F.3d 1357 (App. at A13-A14).

The flaw in the Federal Circuit's analysis is that, previously, "competitors" never had to interpret a patent claim based only on the language of the claim itself, as the Federal Circuit now requires. Instead, the "public notice" rationale was invoked to prevent *expert analysis* from redefining an otherwise clear patent, not to prevent the description in the specification from entering into the

interpretation of the claims. *See Southwalls Techs., Inc. v. Cardinal Co.*, 54 F.3d 1570, 1578 (Fed. Cir. 1995) ("Any other rule would be unfair to competitors who must be able to rely on the patent documents themselves, without consideration of expert opinion that then does not even exist, in ascertaining the scope of a patentee's right to exclude."). This is consistent with the rule that a competitor is presumed to know that a patentee would not define the scope of the claims in such a way that would exclude the preferred embodiment described in the specification. *See Hoechst*, 78 F.3d at 1581 ("it is unlikely that an inventor would define the invention in a way that excluded the preferred embodiment, or that persons of skill in this field would read the specification in such a way").

The combination of the various rules of construction dictates what both the parties and the District Court understood – interpreting the claims of an issued patent as "nonsense" "is rarely, if ever, correct and would require highly persuasive evidentiary support. . . ." *Vitronics*, 90 F.3d at 1583. A competitor can use this canon of construction to properly interpret the claims in light of the description contained in the specification, as the District Court did.

C. The Federal Circuit's Decision Signals The Dawn Of Hyper-Technicality

The United States Constitution provides inventors with a mechanism to protect their rights in their inventions. Art. I, § 8, clause 8. After a patent issues from the Patent and Trademark Office, courts must not interpret the patent in a manner that would deny the inventor "the fruits of his labor on technicalities." *Polysius Corp. v. Fuller Co.*, 709 F. Supp. 560, 570 (E.D. Penn. 1989).

The facts of this case, as found by the District Court, illustrate the danger of ignoring this principle. Bill Moller made an invention, hired an attorney to patent the invention, and secured a duly-issued patent from the Patent and Trademark Office to protect the invention. The patent issued

to Mr. Moller with the assurance that the patent was presumptively valid and that the patent, as issued, would protect Mr. Moller's rights. Mr. Moller's competitor saw his invention, willfully copied it, and then undercut Mr. Moller's sales by marketing an infringing product. The competitor understood Mr. Moller's invention and understood the patent. The District Court vindicated Mr. Moller's rights in response to this willful infringement.

In response, the Federal Circuit did nothing more than read the face of the patent claims, determine that the claims, when read in isolation, did not make sense, and then stripped Mr. Moller of all rights to his invention that the constitutional grant and the Patent Act were intended to provide, and did so based on nothing more than its examination of the language within the claims portion of the piece of paper that issued from the Patent and Trademark Office. As reflected in the District Court's opinion, this result occurred notwithstanding the fact that everyone understood the invention, that everyone understood the patent in light of the specification, and that the competitor willfully copied the invention. Most important, this result occurred notwithstanding the once-clear rule that courts should endeavor to preserve patents, rather than using the patent laws as a tool to defeat common sense.

II. PARTIES ARE DENIED DUE PROCESS WHEN A PATENT IS INVALIDATED BASED ON FACTUAL ISSUES, SUCH AS UTILITY, THAT WERE NEVER BRIEFED OR ARGUED AND WITH RESPECT TO WHICH THE PARTIES PRESENTED NO FACTUAL INFORMATION AT TRIAL

The Federal Circuit has unsettled the process by which an inventor protects his or her invention. The Federal Circuit's actions in this case demonstrate that, without giving either party a chance to brief a factual issue related to the validity of a patent, the Federal Circuit will invalidate a

patent on grounds raised *sua sponte*, even where those same grounds were rejected by both parties in the District Court. This new approach violates the inventor's due process rights.

This Court has established a two-part inquiry for due process analysis: "We must first ask whether the asserted individual interests are encompassed within the Fourteenth Amendment's protection of 'life, liberty or property'; if protected interests are implicated, we then must decide what procedures constitute 'due process of law.'" *Ingraham v. Wright*, 430 U.S. 651, 672 (1977).

A patentee defending a judgment on appeal has two distinct property interests at stake. First, a duly-issued patent not only flows from a statutory entitlement to protection, it is grounded in the Constitution itself. Art. I, § 8. cl. 8. Second, the District Court's Order finding that Process Control willfully infringed the '943 Patent and awarding damages to HydReclaim gives rise to an independent property interest:

> But an ordinary judgment of damages for a tort, rendered against the person committing it, in favor of the person injured, stands upon a very different footing. Such a judgment is founded upon an absolute right, and is as much an article of property as anything else that a party owns. . . .

State of La., ex rel. Folsom v. Mayor and Adm'rs. of the City of New Orleans, 109 U.S. 285, 291 (1883) (Bradley, J., concurring).

Invalidating a patent based on a factual issue raised *sua sponte* by the court of appeals, when the issue was rejected by both parties in the District Court and no party had an opportunity to present evidence on the issue, deprives the patentee of any process at all to defend its property interests in the validity of the patent and the correctness of the damages award. *See Armstrong v. Manzo*, 380 U.S. 545, 552 (1965) ("A fundamental requirement of due process is 'the opportunity to be heard.' . . . It is an opportunity which must

be granted at a meaningful time and in a meaningful manner."). For this reason, this Court has clarified that courts of appeal should not reach factual issues that were not joined by the parties in the District Court:

> It is the general rule, of course, that a federal appellate court does not consider an issue not passed upon below. In *Hormel v. Helvering*, 312 U.S. 552, 556, 61 S.Ct. 719, 721, 83 L.Ed. 1037 (1941), the Court explained that this is "essential in order that parties may have the opportunity to offer all the evidence they believe relevant to the issues . . . (and) in order that litigants may not be surprised on appeal by final decision there of issues upon which they have had no opportunity to introduce evidence." We have no idea what evidence, if any, petitioner would, or could, offer in defense of this statute, but this is only because petitioner has had no opportunity to proffer such evidence. Moreover, even assuming that there is no such evidence, petitioner should have the opportunity to present whatever legal arguments he may have. . . .

Singleton v. Wulff, 428 U.S. 106, 120 (1976). The requirement that due process attach to all phases of patent litigation is well recognized. *See Chicopee Mfg. Corp. v. Kendall Co.*, 288 F.2d 719, 724-25 (4th Cir. 1961) (reversing district court's order finding that patent is valid and infringed, holding that the preparation of the order by the prevailing party violates due process: "[t]hat practice involves the failure of the trial judge to perform his judicial function and when it occurs without notice to the opposing side, as in this case, it amounts to a denial of due process.").

In this case, the Federal Circuit invalidated the '943 Patent and vacated a multi-million verdict on grounds that were not briefed and that were rejected by both parties in the

District Court. Indeed, everyone in the District Court operated on the assumption that this was not a possible outcome – Process Control emphatically asserted that the claims had a meaning that would cover some devices, but that it would not cover Process Control's device.

The violation of HydReclaim's due process rights is most acute with respect to the Federal Circuit's invalidation of claims 7 and 14 of the '943 Patent. The Federal Circuit recognized that it could not extend its rationale to invalidate Claims 7 and 14, because neither of those claims uses an identical phrase to mean two different things in the same claim. Instead, the Federal Circuit invalidated Claims 7 and 14 in a brief footnote that provides:

> It should be noted that the lack of antecedent basis problem would not be present in those claims specifically reciting "change in weight" (i.e., claims 7-14). Nevertheless, those claims would suffer from the infirmity of using two different phrases, "change in weight" and "discharge rate," to mean the same thing in the same claim if we were to adopt HydReclaim's and the district court's claim construction.

Opinion at 10-11 n.1. Thus, the Federal Circuit concluded that patent claims 7 and 14 could not be preserved because it believed that HydReclaim sought to use "two different phrases . . . to mean the same thing in the same claim." *Id.*

HydReclaim never made such an argument, and, if evidence had been taken regarding the utility of claims 7 and 14, HydReclaim's position would have been clear. The discharge rate is the *rate* of change in weight – not just the amount of the weight change. Had HydReclaim been given an opportunity to show that this interpretation has utility, claims 7 and 14 would never have been invalidated on these grounds.

HydReclaim was denied the opportunity to present evidence regarding this interpretation, however, because the

Federal Circuit reached its conclusion *sua sponte*, without giving either party the opportunity to brief or present evidence on the issue. In this manner, the Federal Circuit stripped HydReclaim of its constitutionally protected grant of patent rights based on a rationale that was incorrect as a matter of fact, and did so without giving HydReclaim the opportunity to be heard on the issue. By any standard, this constitutes a deprivation of HydReclaim's constitutionally protected property rights without due process of law. *See Mullane v. Central Hanover Bank & Trust Co.*, 339 U.S. 306, 313 (1950) ("Many controversies have raged about the cryptic and abstract words of the Due Process Clause but there can be no doubt that at a minimum they require that deprivation of life, liberty or property by adjudication be preceded by notice and opportunity for hearing appropriate to the nature of the case."); *Anderson National Bank v. Luckett*, 321 U.S. 233, 246 (1944) ("the fundamental requirement of due process is an opportunity to be heard upon such notice and proceedings as are adequate to safeguard the right for which the constitutional protection is invoked.").

The determination of whether the process afforded in a specific case is adequate relies on three factors:

> First, the private interest that will be affected by the official action; second, the risk of an erroneous deprivation of such interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards; and finally, the Government's interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail.

Mathews v. Eldridge, 424 U.S. 319, 335 (1976).

In this instance, the private interests affected by the actions of the court of appeals are quite substantial: a patentee's constitutional grant of protection for his invention,

and the resulting award of damages entered by a federal district court hang in the balance. Second, the risk of erroneous deprivation of those rights is also quite substantial; indeed, in this case, the court of appeals was demonstrably wrong as a matter of fact in the conclusions it reached *sua sponte*. Third, the court of appeals has a minimal (if any) interest at stake, as it would not have been overly burdensome to simply remand the case for appropriate findings of fact in a case with which the District Court is already intimately familiar. The *Mathews v. Eldridge* factors therefore support the conclusion that a patentee is entitled to a full evidentiary hearing to develop facts relevant to the court of appeals' *de novo*, *sua sponte* invalidation of a patent.

CONCLUSION

Markman should not be interpreted to permit courts to ignore the written description of an invention in the patent's specification and then declare the patent's claims, in isolation, to be nonsensical. To do so would unsettle the method by which an inventor's constitutional grant of protection is secured. Moreover, the Federal Circuit's new approach creates the possibility that the constitutional protection afforded by a patent will be lost without due process of law, as realized in this case.

For the foregoing reasons, Petitioner respectfully requests that the Court grant certiorari in this case.

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Dated: January 24, 2000

APPENDIX

APPENDIX

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United States Court of Appeals for the Federal Circuit

98-1082, -1277

PROCESS CONTROL CORPORATION,

Plaintiff-Appellant,

v.

HYDRECLAIM CORPORATION,

Defendant-Cross Appellant.

DECIDED: September 7, 1999

Before BRYSON, Circuit Judge, FRIEDMAN, Senior Circuit Judge, and GAJARSA, Circuit Judge.

GAJARSA, Circuit Judge.

Process Control Corporation ("Process Control") appeals the decision of the United States District Court for the Northern District of Georgia, Docket No. 93-CV-2795, wherein the district court sustained the validity and enforceability of U.S. Patent No. 5,148,943 owned by HydReclaim Corporation ("HydReclaim"), and found that Process Control had willfully infringed certain claims of that patent. Because the district court erred in its construction of the claims at issue and because the claims as written and correctly construed are invalid, we reverse the district court's determination that the patent is valid and vacate its finding of infringement.

BACKGROUND

HydReclaim is the owner of U.S. Patent No. 5,148,943 ("the '943 patent") directed to continuous gravimetric blenders used in the plastics industry. These blenders mix multiple solid ingredients in appropriate proportions based on weight and feed the mixture to a weighed common hopper. The resulting mixture is then discharged from the weighed common hopper to a processing machine, i.e., an extruder, that heats and combines the blended ingredients into a desired final product.

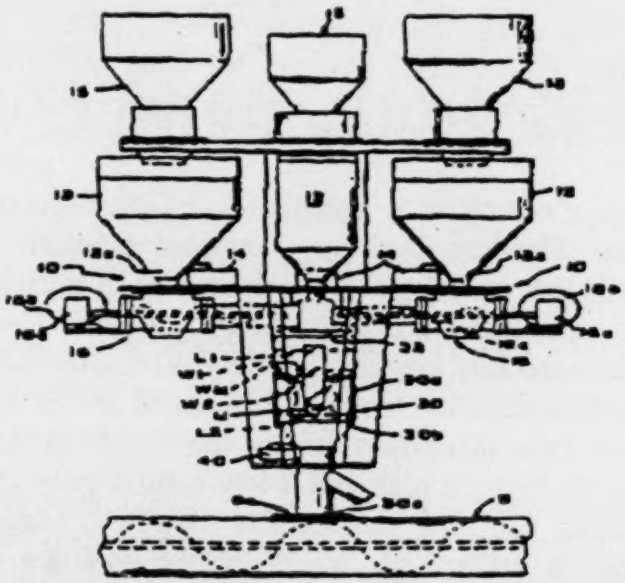
Prior to the invention described in the '943 patent, the discharge rate of continuous gravimetric blenders was controlled by using level sensing devices that measured and maintained constant the volume of blended material in the common hopper. Because the densities of the materials to be blended varied, such prior art devices encountered various drawbacks. These drawbacks included poor control over the accuracy of the recipe provided by the blender to the extruder and poor control over the discharge rate of the blended materials from the common hopper to the extruder because of the inability to determine the weight of the blended material leaving the common hopper. These drawbacks resulted in a final extruded product of inconsistent quality.

The invention described in the '943 patent solved these problems by measuring the weight, rather than the volume, of the material in the common hopper and maintaining that weight in the common hopper at a constant value. A device measures the rate at which the individual ingredient materials are discharged into the common hopper, and another device measures the change in weight of the common hopper over time. Using these two variables and the basic principle of mass balancing, the rate of the processing machine is determined, i.e., the rate at which

material is processed by the extruder is learned. By matching that learned gravimetric speed of the extruder to the gravimetric speed of the blender, a constant weight of blended material in the common hopper is maintained.

In particular, as shown in Figure 2 of the '943 patent reproduced below, the ingredients are discharged from individual ingredient hoppers 12 and directed to a blending chamber 32, after which the blended ingredients are directed to a common hopper 30 equipped with a weighing device 40. '943 Patent, col. 5, ll. 26-32.

FIG - 2



A master computer control unit (not shown) is coupled to individual metering devices 10 associated with the individual ingredient hoppers. The metering devices control the material discharge rate of each individual ingredient to

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maintain a preset ratio of the ingredients. Id. at col. 3, ll. 51-58. The master computer control unit is also coupled to the weighing device 40 associated with the common hopper for determining a discharge rate of the blended ingredients from the common hopper to the processing machine 5 based on the weight loss of the common hopper over time. Id. at col. 3, ll. 35-39. The master computer control unit thus determines the material processing rate of the processing machine, i.e., the extruder, based on the sum of the material discharge feed rates of the individual ingredients to the common hopper plus or minus the discharge rate of the blended ingredients from the common hopper to the processing machine. Id. at col. 3, ll. 45-51. In other words, a constant weight of ingredients in the common hopper is maintained by matching the material processing rate of the processing machine (what comes out of the common hopper) to the sum of the individual ingredient discharge rates (what goes into the common hopper), by using information about the change in weight of the common hopper over time.

Process Control is a competitor of HydReclaim in the material blending business. Process Control uses three methods that are alleged by HydReclaim to infringe the '943 patent. Method One, performed by Process Control's BG blender, operates identically to HydReclaim's 470 blender, which embodies the invention disclosed in the '943 patent. Method Two operates to control the weight in the common hopper by using a high and a low control point, the weight oscillating between the control points. Method Three operates to control the weight in the common hopper by using a set point controlled by a second variable, i.e., total blender rate. Method Three is based on a proportional integral derivative (PID) control system.

HydReclaim sued Process Control in Michigan in December 1992 for infringement of the '943 patent, but the action was dismissed for lack of jurisdiction. During

subsequent settlement negotiations, Process Control filed the present declaratory judgment action in December 1993 in Georgia, asserting, inter alia, invalidity, unenforceability, and noninfringement of the '943 patent. During a bench trial, the district court construed the claims as urged by HydReclaim, sustained the validity of the '943 patent, found that Process Control had willfully infringed claims 1, 3-7, 11, and 13-14 of the '943 patent, found that the '943 patent was enforceable, and awarded HydReclaim a 15% reasonable royalty and its attorneys' fees and costs.

Process Control appeals, challenging the district court's claim construction, the finding of willful infringement, the determination of nonobviousness, the finding of enforceability, and the award of a 15% reasonable royalty. HydReclaim cross-appeals the refusal to award lost profits and to enhance the damages and the district court's exclusion of its damages experts at trial. As will be evident from the discussion below, we need reach only the issue of claim construction.

DISCUSSION

I. CLAIM CONSTRUCTION

A.

Claim construction is a matter of law, see Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71, 34 USPQ2d 1321, 1322 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370, 1996), that we review de novo, see Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1451, 46 USPQ2d 1169, 1171 (Fed. Cir. 1998) (en banc).

B.

Claims 1-6 of the '943 patent are directed to a method of metering different material ingredients for discharge to a material processing machine, and claims 7-14 are directed to an apparatus for carrying out that method. Claims 1-7, 11, and 13-14 are at issue in this appeal, of which claims 1, 4, 7, and 14 are independent.

The district court determined that all of the claims at issue contained the limitation of determining the material processing rate by adding (1) the sum of the material discharge rates of the individual material ingredients to a common hopper, and (2) the discharge rate of the blended materials from the common hopper to the processing machine. See Order of September 30, 1997, ¶ 5. We agree with that analysis, and therefore our discussion of the limitations at issue in the context of claim 1 applies to all of the claims at issue on appeal.

Claim 1 provides:

> 1. A method of metering different material ingredients for discharge to a material processing machine, comprising:
>
> [a] delivering to a common hopper a plurality of individual material ingredients at controllable individual material discharge rates,
>
> [b] discharging material from said common hopper to said processing machine at a discharge rate,
>
> [c] determining loss of weight of material in said hopper due to discharge of material therefrom,
>
> [d] determining the material processing rate of the processing machine from the sum of

> the material discharge rates of the ingredients to the common hopper and the discharge rate of the material from the common hopper to the processing machine, and
>
> [e] controlling the material discharge rates of the ingredients to the common hopper in response to said determined material processing rate as needed to maintain a preset recipe of said blended ingredients at said determined material processing rate.

(emphasis and paragraphing added).

Before the district court, the parties disputed whether "discharge rate" emphasized above in clauses [b] and [d] should be given the same meaning throughout the claim, as urged by Process Control, or whether the second emphasized occurrence means "change in weight of the common hopper," as urged by HydReclaim. Based on the written description, the district court construed the claim in accordance with HydReclaim's assertion, namely that the occurrence of "discharge rate" in clause [d] means "change in weight of the common hopper." See Order of September 30, 1997, ¶¶ 32-33. The district court determined that the patentee had specifically defined the second occurrence of "discharge rate" in his written description to mean "change in weight," relying on the following passages from the written description for its claim construction:

> A master computer control unit is coupled to the weighing device of the common hopper for determining a discharge rate of the ingredients from the common hopper to the processing machine based on the weight loss of the common hopper over time. '943 Patent, col. 3, ll. 35-39 (emphasis added).
>
> A weighing device 40, such as a precision, offset, cantilever load cell, is operably

> connected to and solely supports the common hopper 30 at the discharge end 30a. The weighing device 40 detects the change in weight of the blend M therein during the admission and discharge of material to and from the common hopper 30. '943 Patent, col. 5, ll. 44-50 (emphasis added).
>
> A master digital computer control unit 50 (FIG.4) is coupled via interface 50a (e.g., RS485 serial network interfaces) to the weighing device 40 of the common hopper 30 for receiving weight loss signals therefrom (analog to digital converted signals) over time and determining a blend discharge rate from the common hopper 30 to the extrusion machine 5. '943 Patent, col. 5, ll. 50-57 (emphasis added).
>
> The master computer control unit 50 continually determines minute differential weight changes in the common hopper 30 and calculates the precise differences in the sum of the material discharge rates of the metering units 10 and the extrusion rate. '943 Patent, col. 7, ll. 46-50 (emphasis added).

The district court concluded that "[i]f 'discharge rate' is construed as Process Control asserts [i.e., the same as the first occurrence of discharge rate], this specification would be nonsensical." Order of September 30, 1997, ¶ 33.

C.

On appeal, Process Control challenges the district court's claim construction on various theories. First, as in the district court, Process Control asserts that "discharge rate" in clauses [b] and [d] should be given the same meaning

throughout the claim, particularly as both occurrences include the language "from said [or the] common hopper to said [or the] processing machine." This construction, notes Process Control, obviates the lack of antecedent basis for the second occurrence of "discharge rate" in clause [d] and a concomitant finding of invalidity under §¶35 U.S.C. 112, 2 which necessarily results from the district court's claim construction.

Second, Process Control argues that "discharge rate" is defined in the claims themselves to mean "discharging [blended] material from said common hopper to said processing machine at a discharge rate." '943 Patent, claim 1, clause [b] (emphasis added). The references in the written description relied upon by the district court to redefine "discharge rate" to mean "change in weight" do not clearly redefine that term and, in any event, would redefine the term contrary to the explicit definition of that term in the claim itself.

Third, Process Control notes that claims 7-14 include the limitation of a "second weighing means ... for detecting a change in weight of the ingredients" in the common hopper. According to Process Control, this demonstrates that the subsequent reference to "discharge rate" in clause [d] could not mean "change in weight" as determined by the district court, as use of different terms in a single claim indicates that those terms are not synonymous.

In response, HydReclaim defends the district court's claim construction, urging that the claims are to be construed in a way which will preserve their validity and secure the patentee his actual invention. This can only be done, asserts HydReclaim, by construing the claims in light of the written description, in "the natural manner in which they make sense." Process Control's asserted claim construction, as its

own witnesses admitted, would require "determining something from some entity which includes what you are trying to measure," a construction that clearly does not make sense. HydReclaim also refutes Process Control's antecedent basis argument by asserting that "a discharge rate" in clause [b] is different from "the discharge rate" in clause [d], the former being an undetermined flow rate at that stage of the algorithm, the latter being an actually calculated flow rate based on loss of weight of material in the common hopper over time.

D.

We agree with Process Control, although the parties present us with competing canons of claim construction with which to interpret the claims at issue on appeal. It is true, as HydReclaim urges, that we should attempt to construe the claims to preserve their validity, see Smith v. Snow, 294 U.S. 1, 14 (1935) (holding that "if the claim were fairly susceptible to two constructions, that should be adopted which will secure to the patentee his actual invention"); Modine Mfg. Co. v. United States Int'l Trade Comm'n, 75 F.3d 1545, 1556, 37 USPQ2d 1609, 1617 (Fed. Cir. 1996) ("When claims are amenable to more than one construction, they should when reasonably possible be interpreted so as to preserve their validity."), reading them in light of the specification, see Vitronics, Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576 (Fed. Cir. 1996).

However, contrary to HydReclaim's assertions, this is not a case where the claim language is reasonably susceptible to two constructions. Rather, the claim as written by the patentee is susceptible to only one meaning. It is clear from the language of the claim itself that the term "a discharge rate" in clause [b] is referring to the same rate as the term "the discharge rate" in clause [d]. This conclusion necessarily results from the identical language associated

with the term "discharge rate" in both clauses [b] and [d], namely "from the common hopper to the material processing machine." The presence of that identical language clearly indicates that "a discharge rate" in clause [b] is the same as "the discharge rate" in clause [d], both referring to the rate (in units of weight per unit of time) that material is discharged from the common hopper to the material processing machine. In addition, that conclusion avoids any lack of antecedent basis problem for the occurrence of "the discharge rate" in clause [d].[1]

The district court's attempt to use the written description to circumvent the plain language of the claim and the clear definition of the disputed claim language found therein was inappropriate. While we have held many times that a patentee can act as his own lexicographer to specifically define terms of a claim contrary to their ordinary meaning, see, e.g., Digital Biometrics v. Identix, Inc., 149 F.3d 1335, 1344, 47 USPQ2d 1418, 1424 (Fed. Cir. 1998), the quoted portions from the written description above do not so clearly redefine "the discharge rate" in clause [d] so as to put a reasonable competitor or one reasonably skilled in the art on notice that the patentee intended to so redefine that claim term. See Hoganas AB v. Dresser Indus., Inc., 9 F.3d 948, 951 n. 15, 28 USPQ2d 1936, 1939 n. 15 (Fed. Cir. 1993) (reasoning that the reasonable competitor standard is analytically equivalent to the reasonably skilled in the art standard). More importantly, we do not permit courts to redraft claims. See Quantum Corp. v. Rodime, PLC, 65 F.3d 1577, 1584, 36 USPQ2d 1162, 1168 (Fed. Cir. 1995) ("Although we construe claims, if possible, so as to sustain

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[1] It should be noted that the lack of antecedent basis problem would not be present in those claims specifically reciting "change in weight" (i.e., claims 7-14). Nevertheless, those claims would suffer from the infirmity of using two different phrases, "change in weight" and "discharge rate," to mean the same thing in the same claim if we were to adopt HydReclaim's and the district court's claim construction.

their validity, ... it is well settled that no matter how great the temptations of fairness or policy making, courts do not redraft claims."); Becton Dickinson & Co. v. C.R. Bard Inc., 922 F.2d 792, 799 n. 6, 17 USPQ2d 1097, 1102 n. 6 (Fed. Cir. 1990) ("Nothing in any precedent permits judicial redrafting of claims. At most there are admonitions to construe words in claims narrowly, if possible, so as to sustain their validity."). Where, as here, the claim is susceptible to only one reasonable construction, the canons of claim construction cited by HydReclaim are inapposite, and we must construe the claims based on the patentee's version of the claim as he himself drafted it. See Hoganas, 9 F.3d at 951, 28 USPQ2d at 1939 ("It would not be appropriate for us now to interpret the claim differently just to cure a drafting error.... That would unduly interfere with the function of claims in putting competitors on notice of the scope of the claimed invention.").

E.

Our conclusion that the occurrences of "discharge rate" in clauses [b] and [d] of claim 1 are to be interpreted as referring to the same rate has the following implication for clause [d]. It cannot be disputed that the "material processing rate of the processing machine" is identical to the "discharge rate of the material from the common hopper to the processing machine." The material processing rate of the extruder (the processing machine) is dictated by the rate of the material fed to it, i.e., the discharge rate of the material from the common hopper. As a result of our claim construction, clause [d] does not make "sense" as HydReclaim itself realizes and concedes. What HydReclaim fails to realize is that such a nonsensical result does not require the court to redraft the claims of the '943 patent. Rather, where as here, claims are susceptible to only one reasonable interpretation and that interpretation results in a nonsensical construction of the claim as a whole, the claim

must be invalidated, thus preventing unduly burdening competitors who must determine the scope of the claimed invention based on an erroneously drafted claim.

II. INVALIDITY

A.

The question that remains is under what theory are the claims of the '943 patent invalid. The district court addressed invalidity of the ' 943 patent under numerous theories: (1) as vague and indefinite under 35 U.S.C. § 112, ¶ 1, see Order of September 30, 1997, ¶¶53-57; (2) as on-sale under 35 U.S.C. § 102(b), see id. ¶¶ 58-69; (3) as publicly known under 35 U.S.C. § 102(a), see id. ¶¶ 70-76; (4) as improperly derived under 35 U.S.C. § 102(f), see id. ¶¶ 77-84; (5) as previously invented under 35 U.S.C. § 102(g), see id. ¶¶ 85-96; and (6) as obvious under 35 U.S.C. § 103, see id. ¶¶ 97-108. The district court held the '943 patent valid in the face of all of these challenges. Process Control only appealed to us the district court's conclusion of nonobviousness.

Nevertheless, Process Control asserts on appeal, in the context of claim construction, that the district court erred in its claim construction because the use of two different definitions for the identical term "discharge rate" creates ambiguity and results in lack of antecedent basis for the second occurrence. For its part, HydReclaim concedes that the claim "makes no sense" if we are to adopt the construction that Process Control urges, which we indeed have done as described above. Process Control responds that this construction presents a question of enablement rather than claim construction. Thus, although the parties

discussed whether the properly construed claim "makes no sense" primarily in the context of indefiniteness and claim construction, we consider their arguments in the district court and in their briefs to us regarding the claims "mak[ing] no sense" as preserving and raising the issues of utility (and operability) under §35 U.S.C. 101 and enablement under 35 U.S.C. § 112, ¶ 1 on appeal.

B.

Lack of enablement and absence of utility are closely related grounds of unpatentability. See Raytheon Co. v. Roper Corp., 724 F.2d 951, 956, 220 USPQ 592, 596 (Fed. Cir. 1983). The enablement requirement of 35 U.S.C. § 112, ¶ 1 requires that the specification adequately discloses to one skilled in the relevant art how to make, or in the case of a process, how to carry out, the claimed invention without undue experimentation.[2] See Genentech, Inc. v. Novo Nordisk, A/S, 108 F.3d 1361, 1365, 42 USPQ2d 1001, 1004 (Fed. Cir. 1997). The utility requirement of §35 U.S.C. 101

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[2] The district court determined that the claims of the '943 patent were not vague or indefinite under 35 U.S.C. § 112. See Order of September 30, 1997, ¶¶ 53-57. We note, however, that definiteness and enablement are analytically distinct requirements, even though both concepts are contained in §35 U.S.C. 112. The definiteness requirement of §¶35 U.S.C. 112, 2 is a legal requirement, based on the court's role as construer of patent claims, that is reviewed de novo. See, e.g., Personalized Media Communications v. Int'l Trade Comm'n, 161 F.3d 696, 705, 48 USPQ2d 1880, 1888 (Fed. Cir. 1998). Definiteness requires the language of the claim to set forth clearly the domain over which the applicant seeks exclusive rights. See 35 U.S.C. § 112, ¶ 2 ("[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention"). The test for whether a claim meets the definiteness requirement is "whether one skilled in the art would understand the bounds of the claim when read in light of the specification." Personalized Media, 161 F.3d at 705, 48 USPQ2d at 1888. However, the problem in the present case is not the clarity of the claim language preventing one skilled in the art from determining the scope of the claim.

mandates that any patentable invention be useful and, accordingly, the subject matter of the claim must be operable. See Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555, 1571, 24 USPQ2d 1401, 1412 (Fed. Cir. 1992). If a patent claim fails to meet the utility requirement because it is not useful or operative, then it also fails to meet the how-to-use aspect of the enablement requirement.

In Raytheon, we held certain process claims invalid, stating

> [b]ecause it is for the invention as claimed that enablement must clearly exist, and because the impossible cannot be enabled, a claim containing a limitation impossible to meet may be held invalid under § 112. Moreover, when a claim requires a means for accomplishing an unattainable result, the claimed invention must be considered inoperative as claimed and the claim must be held invalid under either § 101 or § 112 of 35 U.S.C.

724 F.2d at 956, 220 USPQ at 596. As the passage illustrates, when an impossible limitation, such as a nonsensical method of operation, is clearly embodied within the claim, the claimed invention must be held invalid. While an otherwise valid patent covering a meritorious invention should not be struck down simply because of the patentee's misconceptions about scientific principles concerning the invention, see Fromson v. Advance Offset Plate, Inc., 720 F.2d 1565, 1570, 219 USPQ 1137, 1140 (Fed. Cir. 1983), when "the claimed subject matter is inoperable, the patent may indeed be invalid for failure to meet the utility requirement of § 101 and the enablement requirement of § 112," Brooktree Corp., 977 F.2d at 1571, 24 USPQ2d at 1412 (citing Raytheon Co., 724 F.2d at 956, 220 USPQ at 596).

C.

Utility is a factual issue, which we review for clear error. See, e.g., In re Cortright, 165 F.3d 1353, 1356, 49 USPQ2d 1464, 1465 (Fed. Cir. 1999). Whether a disclosure is enabling under §¶35 U.S.C. 112, 1 is a legal conclusion, based upon underlying factual inquiries, and subject to de novo review. See, e.g., Bruning v. Hirose, 161 F.3d 681, 686, 48 USPQ2d 1934, 1938 (Fed. Cir. 1998).

In the present case, it is undisputed by both HydReclaim and Process Control that a consistent definition of "discharge rate" in clauses [b] and [d] of claim 1 leads to a nonsensical conclusion. Due to the principle of conservation of mass, the material processing rate of the processing machine must necessarily be equal to the discharge rate of the material from the common hopper to the processing machine in a steady-state process. Consequently, clause [d] of claim 1, which reads:

> [d] determining the material processing rate of the processing machine from the sum of the material discharge rates of the ingredients to the common hopper and the discharge rate of the material from the common hopper to the processing machine

embodies an inoperable method that violates the principle of conservation of mass. In other words, clause [d] requires determining a quantity from the sum of that exact same quantity and something else, or symbolically, A = A + B, which is impossible, where, as here, B is not equal to zero. Accordingly, we hold that the correctly construed claims are invalid because they are inoperative, and thus the claims fail

to comply with the utility and enablement requirements of §§35 U.S.C. 101 and ¶112, 1, respectively.

CONCLUSION

Given our conclusion that the claims of the '943 patent are invalid, we vacate the district court's finding of infringement. The issues of willful infringement, damages, nonobviousness, enforceability, and exclusion of witnesses therefore need not be addressed.

COSTS

Each party will bear its own costs.

REVERSED-IN-PART and VACATED-IN-PART

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

Process Control Corporation, Plaintiff v. HydReclaim Corporation, Defendants	CIVIL ACTION NO. 1:93-CV-2795-JTC

ORDER

Introduction[1]

This case involves a patent owned by Defendant HydReclaim Corporation *("HydReclaim")*. Plaintiff Process Control Corporation *("Process Control")*, seeks a declaration that it has not infringed on HydReclaim's patent, U.S. Patent No. 5,148,943 (the '943 Patent) and that the '943 patent is invalid, unenforceable, and/or not infringed. HydReclaim has filed a counterclaim for infringement and seeks damages, injunctive relief, and attorney's fees.

The dispute which gave rise to this litigation concerns continuous gravimetric blenders used in the plastics industry. The blenders are used to mix plastic ingredients,

[1] The Court includes this narrative for introduction purposes only. For purposes of clarity, the discussion intentionally omits details that are material to the parties' positions.

usually in pellet form, and then feed the mixture to a processing machine. The processing machine, known as an extruder, heats and combines the ingredients into the desired material and shape for the final product, such as a garbage bag.

The blender must perform two functions. First, the blender must mix the ingredients in the proper ratio in a common hopper. The ingredients come from individual ingredient hoppers and are measured by weight to determine the proper recipe. Second, the blender must maintain a continuous flow by gravity of the material to the extruder. The blender can neither run out of blended material or allow the material to overfill and back up. The purpose of the invention in this case is to adjust the rate of material flowing through the blender to match the rate at which it is processed by the extruder.

Prior to the blenders at issue in this case, the blender rate was controlled by level sensors which measured the volume of material in the common hopper. Because the blended ingredients vary substantially by weight while the level sensors measure only volume, accurate control of the weight of materials in the common hopper of the blender was not possible. These blenders could maintain a constant volume of material, but the weight of material above the processing machine was unknown.

The method described in HydReclaim's '943 patent solves this problem by adjusting the rate of the blender by measuring the change in weight in the common hopper. Under HydReclaim's construction of the '943 patent, the patent discloses a device that measures the weight of the material that is metered into the common hopper and another device that measures the change in the weight of the common hopper. HydReclaim contends that, using the sum

of these two variables, the claimed invention determines the rate of the processing machine and adjusts the blender accordingly.

HydReclaim asserts that this method of "blender control" offers several advantages over the previously used methods of adjusting the blender rate. First, according to HydReclaim, adjusting the blender rate according to the weight of material in the common hopper allows the processing machine to function with fewer interruptions. Previously, a blender controlled by volumetric means might have to stop periodically to recalibrate the volumetrically learned rate due to the changing weight of the materials. In addition, HydReclaim asserts that this method maintains a fairly constant weight, or head, of material over the processing machine. Maintaining this constant weight allows the production of a more consistent final product which, in turn, directly relates to the thickness accuracy of the product.

HydReclaim argues that Process Control has, and continues to, sell blenders that infringe its '943 patent. HydReclaim contends that Process Control's blenders determine, or learn, the rate of the processing machine by computing the weight of material sent to the common hopper and the change in weight of the common hopper over time, which is the method claimed in the '943 patent. HydReclaim concedes that some of Process Control's blenders use slightly different or indirect methods of making these calculations. HydReclaim argues, however, that these differences are insubstantial and do not prevent the blenders from infringing the '943 patent.

Conversely, Process Control argues that its blenders do not infringe the '943 patent. Specifically, Process Control argues that the '943 patent, when interpreted according to the

ordinary meaning of the words, does not disclose a method of controlling the blender rate according to the weight of the common hopper. Moreover, even if the '943 patent is construed to disclose such a method, Process Control claims that most of its blenders do not determine the processing rate according to the change of weight in the common hopper.

In addition, according to Process Control, the '943 patent is invalid for a variety of reasons. Several of its invalidity claims are based on Process Control's assertion that this method of blender control was conceived by its employee, Mr. Robert Northrup, in consultation with Mr. Steve Long of the Mobil Chemical Company in 1989. Even if it did not invent this method, Process Control argues that the invention was obvious. If the patent is not invalid based on derivation, anticipation, obviousness, or the "on-sale" bar, Process Control contends that it is unenforceable because of Mr. Moller's inequitable conduct in not disclosing pertinent prior art. Finally, even assuming that the patent is valid and infringed, Process Control contends that HydReclaim has suffered no damage.

This case came before the Court for a bench trial in late May, June, and early July 1997. Based on these proceedings, the Court now enters the following Findings of Fact and Conclusions of Law.

Findings of Fact and Conclusions of Law

The Parties

1.

Plaintiff, Process Control Corporation ("Process Control"), is a Georgia corporation with offices located at 6875 Mimms Drive, Atlanta, Georgia 30340. Joseph D.

Robertson is the Chairman of Process Control's Board of Directors.

2.

Defendant, HydReclaim Corporation ("HydReclaim") is a Michigan corporation with offices located at 3145 Copper Avenue, Fenton, Michigan 48450. Richard W. ("Bill") Moller is HydReclaim's President. Mr. Moller and his wife Carolyn Moller, who is HydReclaim's Secretary/Treasurer' own all shares of HydReclaim Corp.

3.

In November 1996, the Harbour Group Inc. purchased the assets of HydReclaim and has continued doing business under the name of HydReclaim, Inc. Mr. Moller is now Vice President and General Manager of HydReclaim, Inc.

The Patent

4.

HydReclaim is the owner '943 Patent, which is entitled "Method and Apparatus for Metering and Blending Different Material Ingredients." The '943 patent names Mr. Moller as the sole inventor of the claimed invention.

5.

In general, each of the claims of the '943 patent is directed to either a method or an apparatus (referred to as a "blender") for metering different material ingredients for discharge to a material processing machine (specifically, an extrusion machine or "extruder"). Each claim includes the limitation of determining the material processing rate (i.e. the "extrusion rate") by adding: (1) the sum of the material discharge rates of the material ingredients to a common hopper, and (2) "the discharge rate of the blended materials from the common hopper to the processing machine."

6.

The patent issued on September 22, 1992, with fourteen claims. Of those claims, Claims 1, 4, 7, and 14 are

independent claims. The remaining claims all refer back to, and are dependent on, the independent claims.

7.

Claim 1 is representative of the method claims asserted against Process Control and reads as follows:

> A method of metering different material ingredients for discharge to a material processing machine, comprising:
>
> delivering to a common hopper a plurality of individual material ingredients at controllable individual material discharge rates,
>
> discharging material from said common hopper to said processing machine at a discharge rate,
>
> determining loss of weight of material in said hopper due to discharge of material therefrom,
>
> determining the material processing rate of the processing machine from the sum of the material discharge rates of the ingredients to the common hopper and the discharge rate of the material from the common hopper to the processing machine, and
>
> controlling the material discharge rates of the ingredients to the common hopper in response to said determined material processing rate as needed to maintain a preset recipe of said blended ingredients at said determined material processing rate.

8.

Claim 2 is a method claim and is dependent on Claim 1 and requires the additional feature that the material discharge rates of the ingredients are adjusted to maintain a substantially constant weight of ingredients in the common hopper.

9.

Claim 3 is a method claim and is dependent on Claim 2 and requires the additional feature that the material discharge rates of the ingredients are adjusted "to stabilize the weight thereof in the common hopper at the center of a preset narrow change of weight range at said material processing rate."

10.

Claim 4 is another independent claim directed to a method of metering and blending different plastic material ingredients for discharge to an extrusion machine. Claim 4 includes the following steps:

> metering to a common hopper a plurality of individual plastic material ingredients at controllable individual material discharge rates,
>
> blending the ingredients discharged from the individual material hoppers to form a blend in the common hopper,.
>
> discharging the blended materials from said common hopper to said extrusion machine at a discharge rate,
>
> determining loss of weight of the blended materials in said common hopper due to discharge of the blended materials to the extrusion machine,
>
> determining the extrusion rate of the extrusion machine from the sum of the material discharge rates of the ingredients to the common hopper and the discharge rate of the blended materials from the common hopper to the extrusion machine, and
>
> controlling the material discharge rates of the ingredients to the common hopper in response to said determined extrusion rate as needed to maintain a preset recipe of the blended ingredients at said determined extrusion rate.

11.

Claims 5 and 6 are method claims and both depend from Claim 4 and add the same additional features as discussed in relation to Claims 2 and 3, respectively.

12.

Claim 7 is representative of the apparatus claims asserted against Process Control and reads as follows:

> Apparatus for metering different material ingredients for discharge to a material processing machine, comprising:
>
> a plurality of metering devices for providing a controlled discharge rate of individual material ingredients, each of said metering devices comprising an individual material hopper for containing the material ingredient to be metered, first weighing means operably associated with each individual material hopper for detecting loss in weight of the material ingredient therein, a driven discharge device operably associated with each material hopper for discharging the material ingredient therefrom, and computer control means coupled to the weighing device for determining a material discharge rate and operably associated with the driven discharge device of each hopper for controlling the material discharge rate thereof;
>
> a common hopper for receiving the ingredients discharged by the metering devices,
>
> second weighing means operably associated with the common hopper for detecting a change in weight of the ingredients

therein during discharge from the common hopper to the material processing machine, and

a master computer control unit coupled to said individual computer control devices and to said second weighing means, said master computer control device being operative to determine the material processing rate of said machine based on the sum of said material discharge rates from the metering devices to the common hopper plus or minus the discharge rate of the ingredients form the common hopper to the processing machine and to control the material discharge rates of the metering devices as needed to maintain a preset recipe of said ingredients at said determined material processing rate.

13.

Claim 8 is an apparatus claim, dependent upon Claim 7, and requires an additional feature that the first weighing means comprises a load cell supporting a respective material hopper.

14.

Claim 9 is an apparatus claim, depending from Claim 7 and adding the additional requirement that the discharge device of each metering device comprises a variable speed motor-driven auger.

15.

Claim 10 is an apparatus claim, depending from Claim 9 and including the requirement that the speed of each motor-driven auger is controlled by the master computer control unit so as to control the material discharge rate of the metering device.

16.

Claim 11 is an apparatus claim, depending from Claim 7 and requiring the additional feature of means for receiving and mixing the ingredients discharged by the metering devices to form a blend received by the common hopper (i.e., a cascade or mixing chamber).

17.

Claim 12 is an apparatus claim, depending from Claim 7 and including the additional requirement that the second weighing means comprises a load cell supporting the common hopper.

18.

Claim 13 is an apparatus claim, depending from Claim 7 and including the additional requirement that the master computer control device is operative to control the material discharge rates of the metering devices so as to maintain a substantially constant weight of the ingredients in the common hopper at said material processing rate.

19.

Claim 14 is a second independent apparatus claim, claiming an apparatus for metering and blending different plastic material ingredients for discharge to an extrusion machine, the apparatus comprising:

> a plurality of metering devices for Providing a controlled discharge rate of individual plastic material ingredients, each material metering device comprising an individual material hopper for containing the material ingredient to be metered, first weighing means operably associated with each individual material hopper for detecting a loss in weight of the ingredient therein, a motor-driven discharge device operably associated with each material hopper for discharging the ingredient therefrom, and a

computer control device coupled to the first weighing means for determining a material discharge rate and operably associated with the motor-driven discharge device of each hopper for controlling the material discharge rate thereof,

a cascade chamber for receiving and mixing the ingredients discharged by the metering devices to form a blend,

a common hopper for receiving the blend of ingredients from the cascade chamber,

second weighing means operably associated with the common hopper for detecting a change in weight of the blend therein during discharge from the common hopper to the extrusion machine,

a master computer control unit coupled to said individual computer control devices and to said second weighing means, said master computer control device being operative to determine the extrusion rate of said machine based on the sum of said material discharge rates from the metering devices to the common hopper plus or minus the discharge rate of the blend from the common hopper to the extrusion machine and to control the material discharge rates of the metering devices to the common hopper as needed to maintain a preset recipe and substantially constant weight of said ingredients to the common hopper at said determined extrusion rate.

Infringement

20.

HydReclaim asserts that Process Control's products infringe on Claims 1, 3, 4, 5, 6, 7, 11, 13, and 14 of the '943 patent.

21.

Specifically, HydReclaim argues that Mr. Robertson, Process Control's chairman, saw Mr. Moller's invention at the Atlanta Plastics Fair in early November 1990. Mr. Moller claims that he described the invention to Mr. Robertson. Thus, HydReclaim reasons that after seeing Mr. Moller's invention, Process Control developed its infringing blenders.

22.

The elements of a claim for patent infringement are set forth in 35 U.S.C. §§ 271(a)-(c):

> (a) Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.
>
> (b) Whoever actively induces infringement of a patent shall be liable as an infringer.
>
> (c) Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce

suitable for substantial noninfringing use, shall be liable as a contributory infringer.

23.

A two-step analysis is required for determining infringement. The court must determine "the scope of the claims, if there is a dispute as to claim interpretation or construction; followed by a determination of whether properly interpreted claims encompass the accused structure. "Markman v. Westview Instruments. Inc., 52 F.3d 967, 976 (Fed. Cir. 1995), aff'd, 116 S. Ct. 1384 (1996). The first step, claim interpretation, is a question of law. Id. at 979. The second step, application of the properly interpreted claim to the accused device, is a question of fact. Envirotech Corp. v. A1 George Inc., 730 F.2d 753, 758 (Fed. Cir. 1984).

Claim Construction

24.

Interpretation of patent claims is a matter of law and exclusively within the province of the court. Markman v. Westview Instruments, Inc., 116 S. Ct. 1384 (1996).

25.

The Court's decision in Markman affirmed the en banc decision of the Federal Circuit in Markman v. Westview Instruments. Inc., 52 F.3d 967 (Fed. Cir. 1995). Markman, 116 S. Ct. at 1396.

26.

In Markman, the Federal Circuit categorized two basic sources of patent interpretation - extrinsic and intrinsic evidence. Markman, 52 F.3d at 979. Intrinsic evidence includes the claims, the specification, and the prosecution history. Id. Extrinsic evidence includes any evidence that is external to the patent and the prosecution history. Id. Expert testimony, inventor testimony, dictionaries, and learned treatises are examples of extrinsic evidence *that* can be used to determine how one with ordinary skill in the art would interpret the claims at issue. Id.

27.

If intrinsic evidence resolves any ambiguity in the language of a patent claim, the resort to extrinsic evidence is improper Vitronics v. Conceptronic, Inc., 90 F.3d 1576 (Fed. Cir. 1996). The words used in a disputed claim are always relevant. Id. at 1582. Similarly, reviewing the specification is always necessary in order to determine if any terms have been used in an inconsistent manner. Id. In addition, because the prosecution history serves as part of a patent's complete public record, prosecution history is "often of critical significance in determining the meaning of the claims." Id. These forms of intrinsic evidence are usually sufficient to interpret a disputed claim. Id. at 1583. Therefore, extrinsic evidence, such as expert testimony, cannot "vary or contradict the manifest meaning of the claims" as determined by the intrinsic evidence. Id. at 1585.

28.

Claims of a patent must be construed in the identical way for both infringement and validity. Kimberly-Clark Corp. v. Johnson & Johnson, 745 F.2d 1437, 1449 (Fed. Cir. 1984).

29.

Patent claims are to be read in view of the patent's specification, and may not be construed more broadly than the scope of the enabling disclosure contained in the specification. Markman, 52 F.3d at 979.

30.

A patentee is free to be his or her own lexicographer as long as the specification includes any special definitions. Markman, 52 F.3d at 980.

31.

"[I]f the claim [is] fairly susceptible of two constructions, that should be adopted which will secure to the patentee his actual invention." Smith v. Snow, 294 U.S. 1, 14 (1935). "Ambiguous claims, whenever possible,

should be construed so as to preserve their validity." Texas Instruments, Inc. v. United States Int'l Trade Comm'n, 871 F.2d 1054, 1065 (Fed. Cir. 1989).

32.

Process Control argues that the term "discharge rate" must be construed to have the same meaning throughout claim 1. Specifically, Process control notes that HydReclaim construes the term "discharge rate" in column 8, line 9 of claim 1 to mean "the rate of flow of material out of the respective hopper." Process control contends that this construction is consistent with the ordinary meaning of the term "discharge rate." However, Process control argues that the term "discharge rate" in column 8, line 15 must be construed to have the same meaning as the term "discharge rate" in line 9. Therefore, Process Control argues that "discharge rate" in line 15 cannot mean the change of weight in the common hopper, which is the construction advanced by HydReclaim.

33.

The specification of the '943 patent explains the definition of "discharge rate" and forecloses the construction asserted by Process Control. The specification provides *that* the "master computer control unit" determines "a discharge rate of ingredients from the common hopper to the processing machine based on the weight loss of the common hopper over time." The specification further explains that "[t]he weighing device . . . detects the change in weight of the blend . . . therein during the admission and discharge of material to and from the common hopper," and that "[a] master digital computer control unit . . . receiv[es] weight loss signals therefrom (analog to digital converted signals) over time and determin[es] a blend discharge rate." Column 5, lines 43-56. Finally, the specification clarifies how this is done: "The master computer control unit . . . continually determines minute differential weight changes in the common hopper . . . and calculates the precise differences in the sum of the material discharge rates of the metering

units . . . and the extrusion rate." Column 7, lines 46-50. Thus, the specification explains the method of determining the processing rate using the change in weight in the common hopper. If "discharge rate" is construed as Process Control asserts, this specification would be nonsensical.

34.

Because the specification for the '943 patent resolves any ambiguities concerning the term "discharge rate," a resort to extrinsic evidence, such as inventor or expert testimony, is not necessary.

Application of the Claims to the Accused Devices

35.

The patentee, bears the burden of proving infringement by a preponderance of the evidence. Smithkline Diagnostics, Inc. v. Helena Lab. Corp., 859 F.2d 878, 889 (Fed. Cir. 1988).

36.

Once the claims have been construed, the accused product must be compared with the claims of the patent-in-suit. Rawlplug Co. v. Illinois Tool Works, 11 F.3d 1036, 1041 (Fed. Cir. 1993).

37.

A patent claim may be infringed literally" or under the "doctrine of equivalents." Warner-Jenkinson Co. v. Hilton Davis Chemical Co., 117 S. Ct. 1040 (1997).

38.

If the accused device does not embody exactly each claim limitation, the accused device does not literally infringe. ZMI Corp. v. Cardiac Resuscitator Corp., 844 F.2d 1576, 1578 (Fed. Cir. 1988).

39.

The doctrine of equivalents allows the finding of infringement when the accused device and the claimed invention perform substantially the same function in

substantially the same way to yield substantially the same result. Graver Tank & Mfg. Co. v. Linde Air Prod. Co., 339 U.S. 605, 608 (1950). "[A] product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is 'equivalence' between the elements of the accused product or process and the claimed elements of the patented invention." Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co., 117 S.Ct. 1040, 1045 (1997).

40.

"An equivalent under the doctrine of equivalents results from an insubstantial change which, from the prospective of one of ordinary skill in the art, adds nothing of significance to the claimed invention." Valmont Indus., Inc. v. Reinke Mfg. Co., Inc., 983 F.2d 1039, 1043 (Fed. Cir. 1993).

41.

Process Control's blenders at issue in this case have employed three methods for adjusting the blender rate in response to weight changes in the common hopper - "Method 1," "Method 2," and "Method 3."

42.

When operating using Method 1, Process Control's BG Blenders adjust blender output based on weight changes in the common hopper over time. Using this method, the BG Blender also determines the material processing (i.e. extruder) rate from the sum of the discharge rates of the ingredients to the common hopper and the discharge rate of the material from the common hopper to the processing machine.

43.

Process Control concedes that if claim 1 of the '943 patent is construed as advocated by HydReclaim, then using the Method 1 code literally infringes '943 patent. As this Court has adopted HydReclaim's construction of the term

"discharge rate", Process Control's blenders using Method 1 literally infringe claims 1, 3, 4, 5, 6, and 7 of the '943 patent.

44.

The Method 2 control system uses a "ladder of control points" to control blender speed. In order to determine the processing (i.e. extruder) rate, Method 2 compares the weight of the common hopper to at least two preset control points. Method 2 determines the amount of time that it takes the weight in the common hopper to fall from the high control point to the low control point and rise back to the high control point. Method 2 then determines the processing rate to be the total weight of material metered into the common hopper divided by the previously determined time period.

45.

When Method 2 is in continuous operation and after it has learned the processing rate in the above-described manner, Method 2 adjust the blender speed accordingly. During operation, when the weight in the common hopper exceeds the high control point, the blender is adjusted to a speed that is lower than the previously determined processing race. With the blender then operating more slowly than the average processing rate, the weight in the common hopper falls. After the weight falls below the low control point, the blender is adjusted to a speed that Ls higher than the previously determined processing rate. Once the weight again exceeds the high control point, Method 2 recalculates the average extruder speed, and the process repeats itself.

46.

Method 2 does not literally infringe the asserted claims of the '943 patent. Method 2 not exactly "determin[e] loss of weight of material in [the common] hopper due to discharge therefrom" and, thus does not exactly "determin[e] the rate of the material processing machine from the sum of the material discharge rates of the ingredients to the common

hopper and the discharge rate of the material from the common hopper." Method 2 never knows the rate of material discharged from the common hopper. Instead, Method 2 learns the extruder speed by comparing the rate of material metered into the common hopper with the time necessary for the weight to oscillate between two points.

47.

On the other hand, Method 2 operates in a way that differs little from the method disclosed in the '943 patent. Several witnesses described the manner in which claim 1 of the '943 patent determines the material processing rate as "A plus B equals C over time," where A is the rate of material into the common hopper, B is the change in weight of the common hopper, and C is the processing rate. Method 2 essentially uses this simple equation except that under Method 2 the variable B is zero. Therefore, Method 2 operates the same as the '943 patent -Method 2 determines the processing rate over time by comparing the rate of discharge into the common hopper to the change of weight in the common hopper (i.e. zero) over a period of time.

48.

Method 2 also performs the equivalent of "controlling the material discharge rates of ingredients to the common hopper in response to" the processing rate. As Process Control argues, Method 2 never exactly matches the blender rate and the extruder rate. However, Method 2 controls the blender speed as it oscillates between two weight points. The goal of this operation is to achieve as "controlled and slow" an oscillation as possible. The more slowly the weight in the common hopper oscillates, the closer the blender speed has been set to the extruder rate. Accordingly, although Method 2 does not literally infringe, it infringes claims 1, 4, 7, and 14 under the doctrine of equivalents.

49.

Method 3 sets the blender rate according to the Proportional Integral Derivative ("PID"). The PID algorithm

includes three variables - P, I, D. In Process Control's use of PID algorithm, P is the difference between the actual weight of the common hopper and the target weight for the common hopper, I is the amount of time that the weight has been above or below the target weight, and D is the change in weight over time of the common hopper. These figures are each multiplied by constants and added together. The final figure represents an "optimal" blender rate that is designed to bring the weight in the common hopper to the target weight. Upon reaching this rate, the blender rate is equal to the extruder rate.

50.

As was the case with Method 2, Method 3 does not literally infringe the asserted claims of the '943 patent, but infringes on claims 7 and 14 under the doctrine of equivalents. Method 3 does not "determin[e] loss of weight of material in [the common] hopper due to discharge therefrom" and, thus does not directly "determin[e] the rate of the material processing machine from the sum of the material discharge rates of the ingredients to the common hopper and the discharge rate of the material from the common hopper." On the other hand, Method 3 measures the weight in the common hopper and measures the extent to which this weight differs from a target weight over time - the error rate. Similar to Method 2, the goal using the Method 3 operation is to reach an error rate of zero which means that the common hopper has reached its target weight and the blender rate has been matched, albeit indirectly, to the extruder rate. The extent to which Method 3 determines the extruder rate is only insubstantially different from the asserted claims.

51.

In addition, before operating as described above, both Methods 2 and 3 operate in the start-up mode. The start-up mode begins with an empty blender. The blender is operated at full speed until the common hopper hits a certain weight point. Then, the blender is shut off and material flows from

the common hopper to the extruder until the common hopper reaches a certain point below the target weight. Then the blender is turned on again, and the machine monitors the amount of time it takes for the weight of the common hopper to reach the target weight. When this happens, the machine knows the amount of weight gain in the common hopper over a fixed period of time, and it knows the sum of the inputs from all of the ingredient hoppers. Using these variables, the machine calculates the material processing rate of the extruder and then sets the blender rate to the material processing rate.

52.

The start-up modes of Methods 2 and 3 literally infringe all asserted claims of the '943 patent. In the start up mode, Methods 2 and 3 determine the loss of weight from the common hopper and then determine the processing rate based on the rate of materials being discharged into the common hopper and the change of weight of the common hopper, in start-up mode, Methods 2 and 3 then set the blender rate to match this rate.

Invalidity Based On Vagueness and Indefiniteness

53.

The claims of a patent must particularly point out and distinctly claim the subject matter which the applicant regards as his or her invention. 35 U.S.C. § 112.

54.

The party challenging the validity of a patent claim for indefiniteness must prove the failure to meet the requirements of 35 U.S.C. § 112 by clear and convincing evidence. Vaccine, Inc. v. American Cyanamid Co., 7 F.3d 1571, 1579 (Fed. Cir. 1993).

55.

The test for indefiniteness under 35 U.S.C. § 112 is whether one skilled in the art would understand the bounds of the claim when read in light of the specification. Miles

Lab., Inc. v. Shandon. Inc., 997 F.2d 870, 875 (Fed. Cir. 1993).

56.

Process Control argues that unless "discharge rate" is construed uniformly throughout Claims 1 and 4, these claims are invalid based on vagueness and indefiniteness. Process Control notes that if the term "discharge rate" in column 8, line 15 of Claim 1 (and the corresponding phrases in Claims 4, 7, and 14) is construed to mean the change of weight of the common hopper, the term "discharge rate" would have two different meanings. Thus, Process Control concludes that Claims 1 and 4 would be invalid.

57.

Process Control has not established vagueness/ indefiniteness with clear and convincing evidence. As discussed above, the specification explains the use of the term "discharge rate." This explanation is sufficient to allow one reasonably skilled in the art to understand that "discharge rate" as used in column 8, line 15 refers to the change of weight of the common hopper. See Supra ¶ 32.

Invalidity Based on the "On-Sale Bar"

58.

"A person shall be entitled to a patent unless . . . the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States. . . ." 35 U.S.C. § 102(b).

59.

The party asserting invalidity under the on-sale bar of 35 U.S.C. § 102(b) bears the burden of proof by clear and convincing evidence. Sonoscan Inc. v. Sonotek Inc., 936 F.2d 1261, 1263 (Fed. Cir. 1991).

60.

The policies underlying the on-sale bar include: (1) discouraging removal of inventions from the public domain which the public justifiably comes to believe are

freely available; (2) favoring prompt and widespread disclosure of invention; (3) giving the inventor a reasonable amount of time following the sale activity to determine the value of a patent; and (4) prohibiting extension of the period for exploiting the invention. King Instrument Corp. v. Otari Corp., 767 F.2d 853, 860 (Fed. Cir. 1985).

61.

An invention is "on-sale" for the purposes of Section 102(b) when the alleged infringer demonstrates clearly and convincingly: (1) that the claimed invention asserted to be on-sale was operable; (2) that the complete invention was embodied in or obvious in view of the device offered for sale; and (3) that the sale was primarily for profit rather than for experimental purposes. Keystone Retaining Wall Sys., Inc. v. Westrock, Inc., 997 F.2d 1444, 1451 (Fed. Cir. 1993).

62.

The on-sale bar does not depend on "rigid standards." UMC Elec. Co. v. United States, 816 F.2d 647, 656 (Fed. Cir. 1987). Instead, in order to determine whether the on-sale bar applies, "[a]ll of the circumstances surrounding the sale or offer to sell, including the stage of development of the invention and the nature of the invention, must be considered and weighed against the policies underlying § 102(b)."

63.

In keeping with this principle, a reduction to practice of the invention at issue is not necessary to invoke the on-sale bar. Id. On the other hand, whether or not an invention was reduced to practice before the critical date is relevant to the on-sale inquiry, and an offer for sale, prior to the critical date, of the "mere concept of the invention" generally will not trigger the on-sale bar. Id.; see also Micro Chem., Inc. v. Great Plains Chem. Co., Inc., 103 F.3d 1538, 1545 (Fed. Cir.) (noting that UMC distinguishes between a

"substantially complete invention" and a "mere conception"), cert. denied, 117 S. 2516 (1997).

64.

In this case, the "critical date" for the purposes of the on-sale bar is June 17, 1990, which is one year before the filing date of the '943 patent.

65.

Process Control relies on negotiations with the Mobile Chemical Company that occurred in late 1989 and early 1990 to establish the on-sale bar. Process Control argues that in December 1989, it offered Mobil an improved version of an existing Process Control blender. According to Process Control, this new blender eliminated the proximity switches on the common hopper that had previously controlled the blender rate based on the volume of material in the common hopper. Process Control contends that the proximity switches were replaced with a "weighed downcomer" that determined the processing rate, and controlled blender speed accordingly, by monitoring the weight of material in the "downcomer" or common hopper. Thus, Process Control argues that the claimed invention was embodied in, or obvious in light of, the device offered to Mobile.

66.

Process Control has not established by clear and convincing evidence that the claimed invention was "on sale" prior to the critical date. For two reasons, Process Control's offers to Mobil in 1989 and 1990 fail to establish the on-sale bar.

67.

First, the documentary evidence does not clearly establish that Process Control offered to Mobile a blender that monitored the weight of the common hopper for the purposes of controlling the blender rate before December 1990. In a series of letters in December 1989, Process

Control proposes a blender that would use a "weighed downcomer" to control the processing (extruder) rate and would use proximity switches to control the blender rate based on the volume of material in the common hopper. Plaintiff's Exhibits 34, 38, and 40. Process Control's letters to Mobil do not suggest the proposal of a "weighed downcomer" for blender control until September 1990, which is after the critical date.[2] Plaintiff's Exhibits 50. Furthermore, when read in chronological order, the letters indicate that Process Control did not actually use a weighed common hopper to control the blender rate until December 1990, which is after the June 17, 1990 critical date and after the November 1990 plastics show in Atlanta. Plaintiff's Exhibit 51.

68.

The time line established by these correspondence was corroborated by the testimony of Mr. Charles Bichsel. Mr. Bichsel was a manufacturer's representative for Process Control from 1984 until 1993. Mr. Bichsel testified that the blender offered to Mobil in December 1989 would use proximity switches to control the blender rate. Mr. Bichsel also testified that he did not recall any discussions in December 1989 about measuring the weight of the common hopper to control the blender rate.

69.

Second, even assuming that Process Control had conceived of using the weight of the common hopper to control the blender rate prior to June 1990, this conception was not a "substantially complete" device. In a September 17, 1990 letter to Mobil, Process Control describes the concept of blender control with a "weighed downcommer." Plaintiff's Exhibit 50. However, this same letter also

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[2] The Court does not find that Process Control actually conceived of, or proposed, blender control using a weight-sensitive common hopper in September 1990. Such a factual finding is unnecessary to the resolution of this case.

establishes that Process Control was still early in the process of developing this conception. Specifically, the September 17, 1990 acknowledges that the software necessary to operate the device was the "key to the entire system" and that, as of the date of this letter, the software remained undeveloped. Cf. Robotic Vision Sys. v. View Eng'g Inc., 112 F.3d 1163 (Fed. Cir. 1997).

Invalidity for "Publicly Known"

70.

Under 35 U.S.C. § 102(a), a patent is invalid if the invention "was known or used in this county . . . before the invention thereof by the applicant for the patent."

71.

Anticipaton of a claim under 35 U.S.C. § 102(a) can be found in a prior art reference, only if the reference discloses each and every element of the claim. In Re King, 801 F.2d 1324, 1326 (Fed. Cir. 1986).

72.

For a document to anticipate a patent, the document must clearly and unambiguously disclose the invention in a manner that would enable others to make it. Paperless Accounting v. Bay Area Rapid Transit Sys., 804 F.2d 659, 665 (Fed. Cir. 1986); In re Sasse, 629 F.2d 675, 681 (C.C.P.A. 1980); In re Samour, 571 F.2d 559 (C.C.P.A. 1978).

73.

Mr. Moller conceived of the invention on August 31, 1990. Mr. Moller drew a sketch of this invention and dated the drawing August 31, 1990. Defendant's Exhibit 115. Although HydReclaim did not produce the original of this drawing and thus the date could not be confirmed, other evidence corroborates Mr. Moller's testimony about the conception date and the drawing. First, HydReclaim keeps a log book of its various projects, and this book lists this initiation of the development of the 470 blender (using the

method described in claim 1 of the '943 patent) as beginning on August 31, 1990. Defendant's Exhibit 116. Second, Mr. William Mitchell, who helped write the software for the blender that eventually embodied the '943 patent, testified that Mr. Moller instructed him to begin working on this invention sometime before September 4, 1990. The dates recorded on Mr. Mitchell's computer files comport with this time frame. Finally, Mr. Mitchell's testimony also corroborated Mr. Moller's testimony about the circumstances surrounding Mr. Moller's initial experiments with his invention.

74.

Process Control has not established, with clear and convincing evidence, that the invention was publicly known before Mr. Moller's invention date.

75.

As discussed above, Process Control's 1989 communications with Mobil did not concern a device with all of the features disclosed in the '943 patent. The evidence does not clearly and convincingly establish that prior to September 1990, Process Control had even conceived of the idea of weighing the common hopper to control the blender rate.[3] See supra ¶¶ 65-67.

76.

Assuming, without deciding, that Process Control had conceived of using a "weighed downcommer" to control the blender rate sometime in September 1990 (i.e. before the November 1990 plastics show), this conception is insufficient to establish anticipation because such a

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[3] Again, the Court does not find that Process Control had conceived of this invention in September 1990.

conception would have occurred after August 31, 1990 - the date that Mr. Moller conceived the invention.[4]

Invalidity Based on Derivation

77.

A person is not entitled to a patent if he or she did not invent the subject matter sought to be patented. 35 U.S.C. § 102 (f).

78.

In a derivation Claim, the party challenging the patent claims that patentee did not invent the subject matter of the patent, but instead "derived" the invention from someone else. Price v. Symsek, 988 F.2d 1187, 1190 (Fed. Cir. 1993).

79.

The party asserting invalidity by derivation under 35 U.S.C. § 102(f) bears the burden of establishing with clear and convincing evidence that: (1) the invention was previously conceived by another person; and (2) the complete conception was communicated to the patentee. Price, 988 F.2d at 1190.

80.

Prior conception by another can be proven by written descriptions of the invention, drawings, or a model. Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1376 (Fed. Cir. 1986).

81.

Process Control has not established with clear and convincing evidence that Mr. Moller derived the invention from a device that Mr. Northrup and Mr. Long conceived. As discussed above, Process Control has not established that it had conceived of using a weighed common hopper to

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[4] Process Control apparently concedes that the date of conception, rather than a later date such as the date of the patent application, is the relevant date for the purposes of anticipation.

control the blender rate before August 31, 1990. See Supra ¶¶ 65-67.

82.

In addition, Process Control has not established with clear and convincing evidence that Process Control's conception was communicated to Mr. Moller in September 1990. The parties agree that Mr. Long visited HydReclaim on September 6, 1990, which is after Process Control claims that it had communicated this invention to Mr. Long. However, Mr. Moller testified that, during this meeting, he and Mr. Long did not discuss in detail the idea of controlling the blender rate by measuring the weight of the common hopper.

83.

Mr. Long's testimony does not completely contradict Mr. Moller's recollection. First of all, Mr. Long repeatedly testified that he could not remember the details of his visit to HydReclaim. Second, Mr. Long's testimony about his discussions with HydReclaim of using a "weighed downcommer" did not clearly relate to the concept of using the weight of the common hopper to control the blender rate. Instead, Mr. Long testified that using the "weighed downcommer" to control the extruder rate, rather than the blender rate, was the focus of his concept. Long Deposition at 36-37; 182. As Process Control vigorously argues, this testimony appears inconsistent with Mr. Long's references to blender control. However, when read in its entirety, Mr. Long's testimony does not rise to the level of clear and convincing evidence that the complete relevant concept was communicated to Mr. Moller during this meeting.

84.

In addition, Mr. Moller's October 12, 1990 letter does not clearly and convincingly establish that Mr. Long communicated the complete invention to Mr. Moller on September 6, 1990. First, this letter states that the referenced features, which included using a weighed common hopper to

determine the extrusion rate, were "recommended" by Mr. Long. This statement can be construed to mean that Mr. Long requested that HydReclaim develop the features that Mobil required and that HydReclaim had done so. In other words, Mr. Moller's statement does not clearly acknowledge that Mr. Long had conceived of the method described in the '943 patent. In addition, Mr. Long annotated this letter with the question "how does it control level." This question suggests that when he received this letter, Mr. Long did not understand how the complete invention would function.

Prior Inventorship

85.

"A person shall be entitled to a patent unless . . . before the applicant's invention thereof was made in this country by another who had not abandoned, suppressed or concealed it." 35 U.S.C. § 102(g).

86.

Section 102(g) further provides that "[i]n determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other." 35 U.S.C. § 102(g).

87.

Although similar to the concept of derivation, "priority" is a distinct concept and basis for invalidity. Price v. Symsek, 988 F.2d 1187, 1190 (Fed. Cir. 1993). Unlike in a derivation claim, in an attack to a patent based on priority, the party challenging the patent does not dispute that the applicant invented the subject matter of the invention. Id. Instead, when asserting priority of inventorship, the party challenging the patent, claims that he or she invented the subject matter before the patentee. Id.

88.

A party claiming priority over a patentee bears the burden of establishing, by clear and convincing evidence, a prior conception of the invention and reasonable diligence in reducing the invention to practice. Price, 988 F.2d at 1190.

89.

Conception for the purposes of priority of invention requires that the "idea of the invention structure and possession of an operative method of making it." Amgen, Inc. v. Chugai Pharm. Co., Ltd., 927 F.2d 1200, 1206 (Fed. Cir. 1991). "To have conceived of an invention, an inventor must have formed in his or her mind 'a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice.'" Mahurkar v. C.R. Bard Inc., 79 F.3d 1572, 1577 (Fed. Cir. 1996) citing Burroughs Wellcome Co. v. Barr Labs., Inc., 40 F.3d 1223, 1228 (Fed. Cir. 1994) ("The idea must be 'so clearly defined in the inventor's mind that only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation.'")

90.

Because conception is a mental act, uncorroborated testimony of an alleged inventor is insufficient to prove conception. Burroughs Wellcome Co. v. Bart Labs, Inc., 40 F.3d 1223, 1228 (Fed. Cir. 1994).

91.

Reduction to practice may be achieved by actual reduction to practice or by constructive reduction to practice. Constructive reduction to Practice of the claimed subject matter occurs when a patent application is filed. Hazeltine Corp. v. United States, 820 F.2d 1190 (Fed. Cir. 1987). Actual reduction to practice occurs when the inventor constructs a product or performs a process that is within the scope of the patent claims and demonstrates the capacity of the inventive idea to achieve its intended purpose. UMC

Elec. Co. v. United States, 816 F.2d 647, 657 (Fed. Cir. 1987).

92.

For a number of reasons, Process Control has failed to establish prior inventorship with clear and convincing evidence.

93.

Mr. Moller conceived the claimed invention on August 31, 1990. HydReclaim produced evidence that he reduced this invention to practice on October 12, 1990. HydReclaim also produced clear and convincing evidence that, at the latest, Mr. Moller had reduced the invention to practice by the November 1990 Atlanta Plastics Fair.

94.

Process Control has not produced clear and convincing evidence that it reduced the claimed invention to practice before Mr. Moller. The first documentary evidence which indicates that Process Control had successfully used a "weighed downcommer" to control the blender rate is the December 7, 1990 letter to Mobil. As discussed above, at the latest, Mr. Moller had reduced the invention to practice in November 1990.

95.

In addition, Process Control has not established with clear and convincing evidence that it conceived of the invention before Mr. Moller. The Court has found that Mr. Moller conceived this invention on August 31, 1990. Process Control has not provided clear and convincing evidence that it had conceived of using the weight in the common hopper to control the blender rate before August 31, 1990.

96.

Because the Court finds that Mr. Moller conceived of the claimed invention and reduced it to practice before Process Control did so, findings with respect to Process

Control's diligence in reducing this concept to practice are unnecessary.

Obviousness

97.

If the claims of a patent are not invalid under § 102 because not every feature of a claim is found in a single prior art reference, the claims may still be invalid under § 103. A valid patent may not be obtained if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. 35 U.S.C. § 103.

98.

A party asserting invalidity based on obviousness bears the burden of proof by clear and convincing evidence. Hewlett-Packard Co. v. Bausch & Lomb. Inc., 909 F.2d 1464, 1467 (Fed. Cir. 1990).

99.

In determining obviousness, the relevant factors are: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the difference between the prior art and the claimed invention; and (4) secondary evidence of non-obviousness of the invention. Graham v. John Deere Co., 383 U.S. 1, 17 (1966).

100.

The relevant prior art includes art which is in the inventor's field of endeavor or reasonably pertinent to the particular problem with which the inventor was concerned. In re Oetiker, 977 F.2d 1443, 1447 (Fed. Cir. 1992).

101.

Information which is prior art for § 103 purposes includes material that falls within the scope of 35 U.S.C. § 102(a), (b), (e) and (g). In re Bass, 474 F.2d 1276, 1290 (C.C.P.A. 1973); In re Nomiya, 509 F.2d 566 (C.C.P.A. 1975), Hazeltine Research, Inc. v. Brenner, 382 U.S. 252

(1965); E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co., 849 F.2d 1430 (Fed. Cir. 1988).

102.

Offers for sale which constitute prior art under 35 U.S.C. § 102(b) form part of the scope and content of the prior art for § 103 purposes. In re Kaslow, 707 F.2d 1366, 1374 (Fed. Cir. 1983).

103.

Process Control has not offered clear and convincing evidence that the subject matter of the '943 patent was obvious in light of the prior art.

104.

No prior art existed prior to the filing of HydReclaim's patent application that suggests the method of weighing the common hopper and using that weight and the rate of materials coming out of the ingredient hoppers to set the blender rate to match the material processing rate.

105.

In the reasons for allowance of the '943 patent, the examiner stated:

> The primary reasons for the allowance of the claims is the inclusion of a method and apparatus for metering different material ingredients for discharge to a material processing machine which includes delivering plural ingredients to a common hopper (metering devices employed for apparatus claims with weighing means associated therewith), discharging material therefrom, determining the loss or change in weight therefrom (by second weighing means in app. clms.), determining the processing rate of the processing machine based on the sum of the discharge feed rates of the ingredients to the common hopper, and controlling the

discharge rate of the ingredients (computer control associated with each metering device in app. clms. and master computer control coupled thereto and second weighing means). These limitations are found in all the claims but not the prior art.

106.

None of the prior art cited by Process Control discloses the invention as described by the examiner in the reasons for allowance.

107.

In addition, the evidence shows that Process Control did not consider the invention obvious because, after seeing HydReclaim's 470 blender at the Plastics Fair in 1990, Process Control considered seeking a patent on the design which it had in development.

108.

Process Control also seeks to rely on its correspondence with Mobil in December 1989 as prior art sufficient to invalidate the '943 patent under § 103. As discussed above, these correspondence did not discuss weighing the common hopper in order to learn the processing rate and control the blender rate. See supra ¶¶ 65-67. Therefore, assuming that these communications constitute prior art for the purposes of the '943 patent, these references do not disclose the key elements of the '943 patent.

Inequitable Conduct

109.

A party asserting inequitable conduct must establish With clear and convincing evidence: (1) a material misrepresentation or omission of information and (2) a threshold level of intent on the part of the applicant. Akzo N.V. v. International Trade Comm'n., 808 F.2d 1471, 1481-82 (Fed. Cir. 1986). Materiality and intent are

considered together - the more material the omission or misrepresentation, the less intent must be shown, and vice versa. Id.

110.

When Mr. Moller filed his patent application in 1991, the standard for "materiality" was defined as what a reasonable examiner would consider material in deciding whether to allow the patent. 37 C.F.R. § 1.56(a) (1991).

111.

"Intent" as an element of inequitable conduct means an affirmative design to "deceive or mislead the examiner into granting the patent." Therma-Tru Corp. v. Peachtree Doors, Inc., 44 F.3d 988, 995 (Fed. Cir. 1995) (holding clearly erroneous the district court's conclusion that the failure to disclose to the examiner information relevant to enablement established intent).

112.

Intent need not be established by direct evidence, but can be inferred from the facts and circumstances surrounding the patentee's conduct. Molins Plc. v. Textron, 48 F.3d 1172, 1180 (Fed. Cir. 1995).

113.

Process Control has not established inequitable conduct with clear and convincing evidence.

114.

In support of its inequitable conduct claim, Process Control argues that Mr. Moller failed to disclose to the PTO Process Control's combination of its "MW gravimetric blender" and "Gravitrol weigh hopper." Process Control argues that this combination determined extruder speed through the "mass flow" of a common hopper. Process Control further notes that Mr. Moller discussed this combination in a paper that he presented to a blender seminar and that this paper formed the basis for the prior art that Mr. Moller disclosed during the prosecution of his

patent. Therefore, Process Control concludes that the omission of this portion of the seminar paper constitutes the intentional withholding information that was material to the allowance of the '943 patent.

115.

Process Control similarly argues that Mr. Moller's failure to disclose a letter dated March 20, 1991 to the PTO also constitutes inequitable conduct. This letter included Process Control's December 1, 1989 letter to Mobil. Process Control contends *that* this letter informed Mr. Moller of Process Control's use of a weighed ingredient hopper and weighed common hopper, which was not found elsewhere in the disclosed prior art. Thus, Process Control contends that the failure to disclose this material information suggests deceptive intent.

116.

These omissions do not amount to inequitable conduct. Even if the Court assumes that this information was material, Process Control has failed to establish the requisite level of intent. Mr. Moller explained that he omitted the disputed portion of his seminar paper from his disclosures to the patent office because he did not believe that it was at all relevant. Specifically, he explained that, as he perceived it, his invention concerned controlling the blender rate and the omitted portion of the paper concerned controlling the processing (or extruder) rate. Likewise, Mr. Moller testified that he believed that the March letter referred to extrusion control which was not the subject of his invention. Although in hindsight this reasoning may be incorrect, no evidence allows the inference that the discussion of Process Control's product was omitted in order to deceive the PTO.

117.

Finally, with respect to the other alleged omissions (such as the allegedly incomplete discussion of the K-Tron

Gravibled Blender), Process Control has failed to produce clear and convincing evidence of intent to mislead the PTO.

Remedy

Damages

118.

Upon proof of infringement, "[t]he court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs fixed by the court." 35 U.S.C. § 284.

119.

The patentee bears the burden of proving damages by a preponderance of the evidence. Smithkline Diagnostics, Inc. v. Helena Lab. Corp., 926 F.2d 1161, 1164 (Fed. Cir. 1991).

120.

The following three measures of damages are generally used in patent-infringement cases: (1) lost profits, see Corp. v. Calco, Ltd., 850 F.2d 660 (Fed. Cir. 1988); (2) established royalty, see Allen Archery, Inc. v. Browning Mfg. Co., 898 F.2d 787 (Fed. Cir. 1990); or (3) reasonable royalty, see Wang Lab., Inc. v. Toshiba Corp., 993 F.2d 858 (Fed. Cir. 1993). See generally 5 Donald S. Chisum, PATENTS § 20.03.

121.

A patentee may prove lost profits arising from infringing sales with two different theories. First, a patentee may establish lost-profits damages with the four Panduit factors: (1) demand for the patented product, (2) absence of acceptable non-infringing substitutes, (3) manufacturing and marketing capabilities to exploit the demand, and (4) the amount of profit the patent owner would have made. Fonar Corp. v. General Elec., 107 F.3d 1543 (Fed. Cir. 1997) (citing Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1156 (6th Cir. 1978)). In addition, a patentee can

prove lost profits without establishing the four Panduit factors by proving that the patentee and infringing party are the only suppliers in the relevant market. Kaufman Co. Inc. v. Lantech Inc., 926 F.2d 1136 (Fed. Cir. 1991).

122.

A reasonable royalty is the "supposed result of hypothetical negotiations between" the patentee and the infringing party. Rite-Hite Corp. v. Kelley Co. Inc., 56 F.3d 1538, 1554 (Fed. Cir.), cert. denied 116 S. Ct. 184 (1995). A wide range of factors can be used to determine the amount of a reasonable royalty. Id. at 1555. These factors include the following:

(a) the royalties received by the patentee for licensing the patent-in-suit;

(b) royalties paid for the use of comparable patents;

(c) the nature and scope of the license, as exclusive or non-exclusive, or as restricted or nonrestricted in territory or in customer base;

(d) the licensor's established policy and marketing program;

(e) the commercial relationship between the licensor and licensee;

(f) the effect of selling the patented product in promoting sales of other products of the licensee;

(g) the duration of the patent and the term of the license;

(h) the established profitability of the patented product;

(i) the utility and advantages of the patented product;

(j) the nature of the patented invention;

(k) the extent and value of the infringing use;

(l) customary profit margins in the industry;

(m) the portion of realizable profit due to the invention, as distinguished from non-patented elements of products sold;

(n) the opinion testimony of qualified experts; and

(o) the amount that a willing licensor and a willing licensee would have agreed upon at the time the infringement began.

Georgia-Pacific Corp. v. United States Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970); see also, Unisplay S.A. v. American Elec. Sign co., Inc., 69 F.3d 512, 580 (Fed. Cir. 1995) (citing Georgia-Pacific with approval). In addition, the profits earned on the infringing sales can also be used as a guide for determining a reasonable royalty. See e.g., Hughes Tool co. v. Dresser Indus. Inc., 816 F.2d 1549, 1556 (Fed. Cir. 1987).

123.

HydReclaim has not established that it is entitled to damages in the form of lost profits.

124.

First, HydReclaim has produced insufficient evidence of the existence of a two-supplier market. On the one hand, several witnesses testified that Process Control and HydReclaim are the only two producers of blender that use a "load cell" to control the blender rate. These witnesses also testified to the performance advantages that such a configuration yields. On the other hand, HydReclaim failed to prove that the demand for this type of blender was sufficiently strong to constitute a separate and distinct market for the purposes of determining lost profits. Beyond asserting the existence of this "niche" market, HydReclaim did not assert the existence of a two-supplier market.

125.

Likewise, HydReclaim has failed to establish that it possessed the production and marketing capabilities to produce the additional blenders. Mr. Moller testified that during the relevant time period, HydReclaim was operating with only one shift and that it could operate with up to three shifts. This evidence establishes that HydReclaim could have increased its production capabilities. However, Mr. Moller's testimony is not sufficiently specific to establish that HydReclaim could have met the production requirements that making the additional sales would have required.

126.

HydReclaim is entitled to recover a reasonable royalty of 15% of Process Control's sales of the infringing blenders. First, Mr. Moller testified that he would have made all decisions regarding a license for the '943 patent. Mr. Moller testified that he would have accepted a 15% royalty in exchange for a license to use his invention. Process Control has offered no evidence of what it would consider to be a more reasonable royalty.

Based on the factors identified by the court in Georgia-Pacific, the Court finds that a 15% royalty would have been a reasonable royalty for the invention at issue in this case. Process Control and HydReclaim are competitors in a relatively small and competitive market. In addition, Mr. Moller testified that HydReclaim had never before licensed one of its patents and that he was not aware of any other companies in this industry who have done so. Finally, although HydReclaim failed to establish a distinct niche market for blenders at issue in this case, HydReclaim successfully established that blenders using the method claimed in the '943 patent offer performance advantages and sell for a higher price than other blenders.

127.

HydReclaim established that Process Control sold $647,029 of Method 1 blenders, $2,123,399 of Method 2 blenders, and $6,993,865 of Method 3 blenders for total infringing sales of $9,764,293. A 15% royalty based on these sales is $1,464,643.95. Based on these calculations and the foregoing discussion of damages, Process Control is awarded $1,464,643.95.

Injunction

128.

The Court has found that Process Control has infringed various claims of the '943 patent. Therefore, HydReclaim is entitled to an injunction against future infringement. Accordingly, Process Control and all of its subsidiaries, predecessors, successors, officers, agents, employees, owners, and directors are hereby permanently enjoined from infringing on the '943 patent as construed in this Order. Specifically, the above-named individuals and entities are enjoined from making, manufacturing, producing, importing, selling, offering to sell, any products that use Process Control's Methods 1, 2, or 3.

Willful Infringement

129.

A finding of willful infringement can support an award of enhanced damages of up to three times of the compensatory damages and/or an award of attorneys' fees. 35 U.S.C. §§ 284, 285.

130.

A finding of wilful infringement allows, but does not require, the imposition of enhanced damages or attorney's fees. State Indus. Inc. v. MOR-FLO Indus., 948 F.2d 1573, 1576 (Fed. Cir. 1991). Therefore, whether a party should be awarded enhanced damages or attorney's fees depends on two issues. The first is whether the patentee has established willfulness. Id. The second is whether considering all of the

circumstances, an award of enhanced damages or attorney's fees is appropriate. Id.; Brooktree Corp. v. Advanced Micro Devices Inc., 977 F.2d 1555, 1582 (Fed. Cir. 1993) (attorney's fees).

131.

A patentee asserting wilful infringement bears the burden of establishing willfulness by clear and convincing evidence. BIC Leisure Prod. v. Windsurfing Int'l Inc., 1 F.3d 1214, 1222 (Fed. Cir. 1993).

132.

Determining whether infringement was wilful requires an examination of the totality of the circumstances surrounding the litigation. Kalman v. Berlyn Corp., 914 F.2d 1473, 1483 (Fed. Cir. 1990); Rolls-Royce Ltd. v. GTE Valeron Corp., 800 F.2d 1101, 1110 (Fed. Cir. 1986) (holding that with respect to willful infringement "there cannot be hard and fast per se rules"). The willfulness inquiry focuses on whether the infringing party reasonably believed that they were not infringing on the patent or that the patent was invalid or unenforceable. Hoechst Celanese Corp. v. BP Chem. Ltd., 78 F.3d 1575, 1583 (Fed Cir. 1996); Ortho Pharm. Corp. v. Smith, 959 F.2d 936, 944 (Fed. Cir. 1992); P.A.T. Co. v. Ultrak Inc., 948 F. Supp 1518, 1521 (D. Kan. 1996).

133.

Knowledge of another's patent rights creates an affirmative duty to exercise due care to determine whether these rights are being infringed. Underwater Devices Inc. v. Morrison-Knudsen Co., 717 F.2d 1380, 1389 (Fed. Cir. 1983). This duty generally includes an obligation to secure a competent legal opinion that the patent is invalid, unenforceable, or not infringed. Id. Therefore, the failure to secure a competent opinion of counsel or the delay in securing such an opinion while continuing to infringe known patent rights strongly suggests a wilful infringement. Ryco Inc. v. AG-Bag Corp., 857 F.2d 1418, 1428 (Fed. Cir. 1988)

(reversing as clearly erroneous the district court's finding that the infringer reasonably believed that the patent was invalid because the infringer never secured an opinion of counsel). On the other hand, the lack of an attorney opinion does not require a finding of willfulness and the existence of an opinion does not necessarily preclude a finding of willfulness. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 1569 (Fed. Cir. 1986).

134.

Like the willfulness analysis, determining whether to enhance the damages awarded for infringement requires the consideration of the totality of the circumstances surrounding the infringement and the litigation. Bott v. Four Star Corp., 807 F.2d 1567, 1572 (Fed. Cir. 1986), overruled on other grounds, A.C. Aukerman v. R.L. Chaides Const. Co., 960 F.2d 1020, 1038 (Fed. Cir. 1992).

135.

Among the various factors that a court can consider in determining whether to award enhanced damages are the following: (1) whether the infringing party deliberately copied the patentee's ideas or designs, (2) the extent of the willfulness, (3) the infringer's conduct as a party to the litigation, and (4) whether the infringing party asserted non-frivolous claims of non-infringement or invalidity at trial. Read Corp. v. Portec Inc., 970 F.2d 816, 827 (Fed. Cir. 1992).

136.

HydReclaim has established wilful infringement with clear and convincing evidence. Process Control admits that it became aware of the '943 patent in November 1992. Despite this knowledge, Process Control continued to sell infringing blenders and did not secure even a draft written opinion of counsel as to the patent's invalidity and the non-infringement of Process Control's blenders until December 1993 - over a year after learning of HydReclaim's patent and after HydReclaim had filed this lawsuit. Moreover, Process

Control did not secure final opinions of counsel opining invalidity and non-infringement until December 1994 - over two years after learning of HydReclaim's patent.

This delay in securing a reliable opinion of counsel establishes that Process Control failed to exercise due care in determining whether it was violating HydReclaim's patent rights. Cf. Philip Morris Inc. v. Brown & Williamson Tobacco Corp., 641 F. Supp. 1438, 1487 (M.D. Ga. 1986). Process Control's officers may have possessed a good faith belief that the '943 patent was invalid based on Mr. Northrup's and Mr. Robertson's honest belief that Mr. Northrup, with Mr. Long, had actually invented the subject matter of the '943 patent. Nevertheless, Process Control did not substantiate this belief for at least one year - and actually two years.

The court finds that the oral opinion that Process Control allegedly received from Mr. Roger Frost, its former patent counsel, in 1990 could not support a reasonable belief that the '943 patent was invalid. First, oral opinions of counsel are generally disfavored as a means for avoiding willfulness. Minnesota Mining and Mfg. v. Johnson & Johnson Orthopaedics Inc, 976 F.2d 1559, 1580 (Fed. Cir. 1992). Second, Process Control claims that Mr. Frost rendered this opinion before the patent had issued. Consequently, the opinion could not have contained all of the necessary elements that comprise a competent attorney opinion of invalidity.

137.

Despite this Court's finding of wilful infringement, the Court does not find that the totality of the circumstances surrounding this case justify the most severe punishment available. Process Control's actions during this litigation do not support an award of treble damages. To the contrary, throughout this long case, counsel for Process Control exhibited considerable professionalism and courtesy to opposing counsel. Likewise, Process Control did not assert frivolous claims of invalidity. The Court found that Process

Control had failed to carry its significant burden of establishing the invalidity of the '943 patent. The Court also found that Process Control's delay in securing an opinion of counsel on these claims suggested willful infringement. Nevertheless, Process Control's claims of prior invention, derivation, and anticipation were certainly not frivolous, and thus Process Control's vigorous litigation of these claims did not unnecessarily prolong this case. Cf. Datascope Corp. v. SMEC Inc., 14 USPQ2d 1071 (D.N.J. 1990) (awarding a fifty percent enhancement of damages because although the infringement was wilful, it was not "blatant"); Chisum v. Brewco Sales & Mfg, 726 F. Supp. 1499 (W.D. Ky. 1989) (doubling damage award because the infringement was "not so egregious as to warrant the trebling of damages"), aff'd 915 F.2d 1583 (Fed. Cir. 1990).

138.

Accordingly, the court will not treble the damages awarded HydReclaim. Instead, HydReclaim is awarded the compensatory damages discussed above plus all costs and reasonable attorney's fees incurred in this case. HydReclaim may submit an affidavit and itemization of its attorneys' fees and costs within ten (10) days of the entry of judgment in this case.

Conclusion

The Court has found in favor of HydReclaim on its counterclaim for infringement and against Process Control on its claim for a declaration of invalidity, unenforceability, and non-infringement. HydReclaim is awarded $1,464,643.95 in damages plus costs and attorneys' fees. Process Control's declaratory claim is DENIED. The Clerk is DIRECTED to enter judgment accordingly.

SO ORDERED this 30 day of September, 1997.

/s/ Jack Camp
JACK T. CAMP
UNITED STATES DISTRICT JUDGE

CORRECTED

United States Court of Appeals for the Federal Circuit

ORDER

Before BRYSON, Circuit Judge, FRIEDMAN, Senior Circuit Judge, and GAJARSA, Circuit Judge.

A petition for rehearing having been filed by the CROSS-APPELLANT, and a response thereto having been invited by the court and filed by the APPELLANT,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, DENIED.

The mandate of the court will issue November 1, 1999.

FOR THE COURT

/s/ Jan Horbaly
Jan Horbaly
Clerk

Dated: October 25, 1999

cc: TODD DEVEAU
BRADLEY A. SLUTSKY

PROCESS CONTROL V HYDRECLAIM CORP, 98-1082,-1277
(DCT - 93-CV-2795)

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* Note: Pursuant to Fed. Cir. R. 47.6, this order is not *
* citable as precedent. It is a public record. *
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UNITED STATE DISTRICT COURT
NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

PROCESS CONTROL CORPORATION, Plaintiff, vs. HYDRECLAIM CORPORATION, Defendant.	CIVIL ACTION NO. FILE NO. 1:93-cv-2795-JTC

AMENDED JUDGEMENT

This action having come before the court, Honorable Jack T. Camp, United States District Judge, on a joint motion to alter or amend judgment, and the court having granted said motion, it is

Ordered and Adjudged that defendant HydReclaim is awarded $1,894,447.95 in damages, $1,062,098.62 in attorney's fees and $54,862.34 in costs.

Dated at Atlanta, Georgia, this 11th day of August, 1998.

LUTHER D. THOMAS
CLERK OF COURT

By: /s/ Monique Welsh
Deputy Clerk

Prepared, Filed, and Entered
in the Clerk's Office
August 11, 1998
Luther D. Thomas
Clerk of Court

By: /s/ Monique Welsh
Deputy Clerk